A STUDY ON
SURAM

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DEPARTMENT OF KUZHANTHAI MARUTHUVAM

GOVERNMENT SIDDHA MEDICAL COLLEGE

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "**A STUDY ON SURAM"** is a bonafide work done by **DR. K. THIRUMAGAL,** Govt. Siddha Medical College, Palayamkottai in partial fulfillment of the university rules and regulation for award for **M.D(SIDDHA), BRANCH IV KUZHANTHAI MARUTHUVAM** under my guidance and supervision during the academic year **2013-2016 OCTOBER.**

Name and signature of the Guide:

Name and signature of the Head of Department:

Name and signature of the Principal:

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled. "**A STUDY ON SURAM**" is a bonafide and genuine research work carried out by me under the guidance of Prof.**DR.D.K.SOUNDARARAJAN, M.D(s).,** Head of the Department, Post Graduate Department of **KUZHANTHAI MARUTHUVAM** Govt. Siddha medical College, Palayamkottai and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

Date :
Place :Palayamkottai

Signature of the Candidate
DR. K. THIRUMAGAL

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CONTENTS

Introduction

The siddha system of medicine is the most ancient system of medicine that originated along with the origin of plants. The main ingredient in siddha system is the herbs of medicinal value. Late it redefined by the “siddhars”,they blessed people.

Siddha gains its importance by treating the cause of the diseases and not merely the symptoms.The system deals with tridosha theory and panchapootha theory regarding the assessment and treatment of the disease.

Balavagadam is the branch of medical science of siddhars which deals with the diseases of children,their essential nature,especially on the functional changes together with planetary influences,morbid diathesis etc.., and the treatment.

In balavagadam the diseases are broadly classified into agakkarananoikal and purakaarananoikal.

The concept of balavaagadam in the siddha literature is in conformity with the fact that the nature of the tridhosham in the constitution of the parents at the time of giving birth of a child also produces similar dhoshams in the constitution of the child.

‘gpwe;jehs; gps;isfF jhNdedwha
gpj;thNygpz;Alypd; NkNyNjhdWk’

‘nfhyYf;dwf; zNkjf; fuqfNsJ
$Wkpit #upnadw;FowNyJ
GyYf;dw;jhaNy je;ijahNy
Gidfnfhb gluejJNghy gluejJ ,gghy’

-ghy; thflk; (gffk; vz;-6)

The above lines stated that certain diseases are caused by parents to the children. The recent studies in the modern world ensure it.The recent researches evidences that the mother’s dietary changes can affect the fetus microbiome and also it encoded in DNA. It affects child’s growth and development of immune system. By this way the children get inherited diseases. This may be the reason for

agakaarananooikal. Purakaarananoikal may be caused by any pathogens from the surroundings or any other factors from environment.

Suram

"Dis harmony is the cause of disease and therefore re -establishment of harmony is the cure" which is the proverb of our ancient system of siddha medicine. Siddha treatises describe disease in man do not originate in himself alone, but also from the environmental influences which act upon him.

Our literature supports the fact that suram is established when we go wrong with the nature, in food, Lifestyle, behavior,emotions, etc.., internally along with the external environment.

Hence siddha text suggests suram under noinilai, and not merely a symptom.so suram may be comparable with fever and its symptoms. Fever in children is one of the most common manifestations of an illness which makes the parents seek medical attention early. Fever can be defined as a regulated elevation in body temperature above the customary set point of the hypothalamic thermostat.

Siddha system of medicine which has an indigenous effect in clearing the root cause of the disease will be unique in clearing suram. Hence I hope the trial drug "**vettumarankuligai"** will be effective in curing suram.

AIMS AND OBJECTIVES

Suram may be due to body immune response (or) it can be the presenting feature of serious (or) life threatening disease, hence it develops an importance in clinical approach to the patients in order to distinguish the mild benign illness from those potentially more serious.

Aim

To evaluate the clinical efficacy of the drug “vettumaran kuligai” to reduce increased temperature,and its presentations like heat,head ache,chills,muscle pain,malaise etc.,,

Objectives

1. To collect and review the ideas mentioned in the ancient siddha literature about the disease.
2. To study the disease suram on the basis of mukkutram udalthathukkal, kaalangal,neerkuri,neikuri,age, sex and economic status
3. To use the modern parameters in the investigations of the disease that enhances to observe the progress of the patient.
4. To have clinical trial on **“vettumaran kuligai”**
5. To evaluate the pharmacological study of the trial drug
6. To study the biochemical analysis the trial drug
7. To study the acute toxicity study of the trial drug

REVIEW OF LITERATURE

SIDDHA ASPECT

Ruk

caµudy jddµiy tµlL khwµ Gweµiyfsµy guTjy 'Ruk' vdggLfµwJ

caµudy

]Jhy #lrk gQrG+jkakhd cly› caµH NrHejµUffgglj Njfjij eddµiyaµy itjjµUffggll moy› caµudy (m) caµuffµdµ vdggLk.

Neha ,ayG

Flyµy rjk mjµfkhfµ clyµd ,awif R+L jddsTfF kµQrµ vOeJ fznzuµjy› tha Fklly› cly Nehjy› thejµahjy Kjyµa gy FwµF zqfisj NjhwWtµfFk.

Nehaf S fnfyyhk murd

'nrhyyNt Rujjµ Dl jµwik Nfsha
rljjµYss gµzµfnfyyh kµuhrhthFk
nayyNt ekDfF nkhfF nkhfFk....."

-ruNgejµuH Ehy

Ruk cyfµYss Nehafs vyyhtwwµwFk murd Nghdwjh Fk. Ruk vkDfF eµfuhdJ vdW ruNgejµuH Ehy $WfµwJ.

Ruk tuyhW

'jssNt jffdµl Ntstµidjhd
rhkgrµtd Nfhgjjhy moµjjNghJ
neyyNt newwµff z Rthiy jddµy
Neuhf GwggLL Neuejjh Nk'

-ruNgejµuH Ehy 17 - 18

Ruk rµtdµd Nfhgjjµ wF ,izahdJ. jdDila ahfjij moµjj NghJ gukrµtdµd %dwhk fz zµy ,UeJ czlhd Rthiyaµy ,UeJ VwgllJ› vdW Rujjµd tuyhW gwwµ ruNgejµuH jhd ,awwµa Ru Nuhf rµfµrir vd Dk Ehyµy $wµAsshH.

NtWngaufs

‘ntkik ntgG ntWfFq fharry
Jkkh fhqif #L joydy
Rkik gpwggpwggpy njhlH Neha
gkky Neha fhejy gy ngauRuNk’

- rpjjkUjJtk (nghJ)

Rujjpw F›

- ntkik
- ntgG
- fhejy
- fhqif
- fharry
- #L
- mdy
- gpwggpy ,wggpy njhlUk Neha
- gkky Neha

vdggy NtW ngaHfs czL.

Neha tUk top

nghqfpnaO kjiyaH NrU Rukhd J <uQnrOjj thW
nghUkpnaO kddkjpdhYU gldjjpdhy fi zapdhy
khejkjpdhy
jqfpnaOk fpUkpahy ,iwNfhgjjpdhy jiuahy Fspupdh Yk
jgghkNy eupd Njhrkjpdhypdp jiyjdpy tprk nfhzljhy
kqF ntapy fhqifahy japDlntfifahy ghypDl
Njhrkjpdhy gfujjpk[i[Ak mdNywp ,ujjNk #Nlwp RukJ
czlhFk.

-FkgKdp ghythflk.

ghyuf SfF foffzl fhuzqfspdhy Ruk czlhfpwJ vd FkgKdp ghythflk Fwpgp Lfpw J.

- <uk
- czt pd Njhlk

- f i z
- khejk
- c l yp y jqFk fpUkp
- , i w Nfhgk
- F spuej j i u
- F spurrp
- eupd Njhlk
- j i ya pdp y tplk NrUjy
- ghypd Njhlk

, j j i fa fhu z qf shy c z lhd Ngjqf spdhy vdG› k[i [, twwpy m d y Vwp # l i l t jhy Foe i j f S f F Ruk c z lhfpwJ.

ghyu Ru epjhdk

‘fhgghd tuyhW nrhyyfNf S

f d j j tapWj dpy kejqf s f y j j yhYk

jhgghd c \ z qf s kpFejjhYk

j i y t yp tprKk f z Njh \ k Nruej j dhYk

Mgghd m] jpNahL <uy k[i [

moNywp tp\ Nkwp njhejk nfh z L

Negghd ghyu Ruk vl L f Fk jhd

eprrakha ngaufs t i f epfoj J tNd.

- k j i y Neha njhF jp-1

tapwpy kejk Nrut jhYk› c \ z k kpF t jhYk› j i y t yp› eQR f z Njhlk M fpad Nrut jhYk moyhd J kpFeJ erR j d i kNahL njhejk nfhs t jhy Foe i j f S f F vl L t i fahd Ruqf s c z lht jhf k j i y Neha njhF jp Ehypy Fwpgglgg l L s s J.

gpsisggpzpkUjJtk Ehypy›

- c z tpd NtWghL f s
- khejk
- gy t i fggl l eQR

- v z n z a NjajJ Fspj j gpwF lak kpFej nhUl f i s c l nfhs S j y
- F spuej e i u gUF j y
- fhak gL j y
- nghupkh›gok› fgpy th i o jpd d y
- fpUkp ,U j j y

K j ypa fhu z qf shy Foe i j f S f F Ruk c z lht jhf kU›m.Rejuuhrd m tufs Fwpgg pL fpwhH.

Neha v z :

ghy thf l Ehypy Ruk t i f 20 v d f $wggl L s s J.

m i t›

1. thj Ruk - C i dg gwwp tUk.
2. gpj j Ruk - Njh i yg gwwp tUk
3. la Ruk - v d i g rhueJ c l i y n t Jggp tUj Jk
4. kshj la Ruk
   - tplhj Ruk fhajy (m) tplL tplL Ruk fhajy
   - eh twl rp
   - thejp
   - c l y typ

   K j ypa FwpF z qf s fh Z k.
5. khej Ruk
   - tplh Ruk
   - c lwf l L f s gyk F i weJ fh Z k
6. fopr r y Ruk
   - kpf f fharr y
   - tapW ,i ueJ gy epwkhf fopj y
   - c z tpy tpUggkpd i k
   - i f fhy c jwy fh Z k
7. M k Ruk
   - rhkj jpwF xUK i w # L mjpfkhf fh Z k

- eu N t l i f
- c l y , i s j J f fh Z k
- jhagghy c z z KbahJ.

8. r j Ruk
   - l ak k₹F j₹g gL t jhy t Uk
   - Ruk fhAk

9. F s₹u Ruk
   - K j y₹y F s₹u c z lhf₹g g₹d Ruk c z lhFk
   - c l y NehFk
   - e i k c z lhFk

10. erR Ruk
    - Gw t rR
    - t₹f f y
    - Ruk fh Z k

11. t₹lh Ruk
    - t₹lhJ Ruk fhAk
    - euN t l i f
    - c l y vu₹T
    - k y r r₹f f y

12. khwy Ruk
    - Ruk xU ehs t₹l L xU ehs t Uk
    - Njhs NehFk
    - f y y uy k z z uy t surr₹ fh Z k

13. f z Ruk
    - n fhgG+o› E i uauy G z z hFk
    - k a f f k c z lhFk

14. c l fha r r y
    - eu F i weJ , o₹Ak
    - khug₹y k l L k Ruk fh Z k
    - k y k NghFk NghJ M r d tha₹y vu₹r r y fh Z k

15. FUjp Ruk

- FUjpiag gwwp tUk
- jiy RwWk
- if› fhyfspy Ntuit j z zuha xOFk

16. C d Ruk

- mdy Nghy Ruk fhAk
- clyntSfFk
- FUjp FiwAk

17. mjjp Ruk

- Ruk rhkk NjhWk mjpfggLk
- thejp fhZk
- rpWeu rptfFk
- Nrhifald ,Uky fhZk

18. jhg Ruk

- clyvupAk
- Nky %rR
- eh twlrp

19. clkG Nehaf fharry

- clyNehFk
- fzfsellfzfshfNt ,UfFk
- ghYz zhJ

20. mdgdhjp Ruk

- clyntJkGjy
- fz rptjjy
- vijg ghujjhYk gak
- kyrrpffy Mfpad fhZk

NtW kUjJt Ehyfspy Ruk tiffs›

v z	Ehypd ngau	Neha
1	gpspisggpzpkUjJtk- kU.m.Rejuuhrd	32
2	kjiy Neha njhFjpI - kU.T.Nkhfduh[	08
3	rtulrhkpujk	23
4	jdtejupitjjpakgFjpII	64
5	FkgKdpghythflk	10

FkgKdpghythflk

‘rupYW jhupyF fhupioNa Nfspdp Rutif <uQRJk NrU FUNthJ KiwKd Dhypdgb rpwgghawpej tzzk NeUwNthbdp thjRukhd Jk gpjjNkhL NruggRuk newpNkT jpupNjhrk csRukhfNt mdghdjp Rukjhd ghupdpa nujjRu kjjpapd RukJk khqfprk khejRuKk gfUkpit <uQRJk MfkjpNyAWk ghyUlyhfKwNt NgupYW F zkJk gupfhukhd Jk NgRNtndht nthdwpdp NgjKwhky FkgKdpaUshy gpd dhywpeJ ghNu’

Ruk gjJ tifggLk. mit›

thj Ruk	cs Ruk
gpjj Ruk	,ujj Ruk
Nrj Jk Ruk	mjjp Ruk
jpupNjhr Ruk	khqfp\ Ruk
mdgdhjp Ruk	khej Ruk

NkYk Mjkulrhkpuj Ehyp›

‘ciujNjhNk ghyUfF Ru tFgG

cly fhAk Mk Ruk cWjpnkjj

epiwjjnjhU ujj Ruk mdgdhjp Ruk

Neuhd khqfp\ RuKkhFk

jpiujJNk mjjpRuk thj gpjjQ

rpNywgdjJ RunkdW nrggyhFk

kiwjjnjhU khejRu klruejhd

kfhNjh\ khejRu nkd dyhNk

MNkjh dpujjfz RuK khFk

miwej fzf fharryhFk FspuRuK khejk

jhNkjhd khwyrpq fharryhFk

rhuthd goQRuKk rjRu KkhFk

fhNkjhd mjprhu RuKkhFk

fowpdhu thejpRuk tpffy jhfk

ehNkjhd RutFgG nrhdNdhkggh

etpdwpllhu FkgKdp etpdwpllhNu’

vdW ghyufSfF czlhFk Ruk tifggLjjgglLssJ.

Ruk Nehapy fhZk FwpF zqfs

- cly #lhf ,Ujjy
- jiy fdjjy
- fz vuprry
- jiy typ
- eh twlrp
- ehtpy kh gbeJ fhhzy
- khuG typ
- rspfflL
- ,Uky
- Jkky

- %fFeughajy
- taɒwwɒy tyɒ
- thejɒ
- rɒWeukQrsɒjJ ,wqfy
- euffLgG
- eukykNghjy
- Fuy fkky
- thafifjjy
- grɒaɒdik
- cly ,isjjy

Kjyɒa FwɒF zqfsɒy jhJ NjhlNtWghLfSffɒzqfTk› RujjɒdgɒuɒTfSfFj jFejgbAk rɒy (m)gy FwɒF zqfs Ru Nehaɒy NjhdWk.

,itadwɒ›

- czZkczt ɒy tɒUggkɒdik
- clyeɒwk khwy
- clyfdkhaɒUjjy
- kaffk
- nfhllhtɒ
- ,utɒy Jhffkɒdik
- vgnghUsgllhYkcly $ry
- ehRitawɒahik
- fzfsɒyeutbjy

Kjyɒad Tk RujjɒyNjhdWk FwɒF zqfshfggɒsisggɒzɒ kUjJt Ehy $WfɒwJ.

KfFwwtpay

‘cwwNjhu clypd $W

cWgGld tputpepdW

KwWNk Nehafs vyyhk

Kjyjdpy NjhdWkNghJ

gwWNk thj gpjj

rpNywgde j d dpy x d iwg

gwwpNa NjhdW nkdW

gfuejdu Kdptujh Nk

- mfjjpau FUehb

clypy Nehafs gpwggjwfhd topfs gythf ,Uggpdk mit

NjhdWk NghJ thjk› gpjjk› fgk Mfpa KfFwwqfspy VNjDk

xd iwg gwwpNa tUk vd mfjjpau Ehy $WfpwJ. mJNghy

Rujjpyk Kjypy KfFwwqfspy fgk ghjpggileJ› gpd kww

Fwwqf Sk ghjpggilfpdwd.

‘kejk tuhNj RuKk tuhNj Ruk tejhy

kej kwhNj rjkwhNj…’

-ghyNuhf epjhdk- guuhrNrfuk

‘Fly jddpy rjkyhJ RuKk tuhJ”

vDk Njud $wwpy ,UeJ RuNeha NjhdWtjwF Kjdikf fhuzk Fly kwWk ,iugigapy ngUFk ‘rjNk’ MFk vdgjid mwpayhk. RuNeha tUtjwF KjdKjypy ,iugigapy rjk ngUfp Neha cwwhufFk Neha jugghufFk mjid mwpAkgb nratjhy ,J ‘Ruk’ vdg ngau ngwwJ.

gjpnzz rpjjuehb Ehygb›

‘tFjj KiwgghL kejjjhy thAthk

kpFejdy thAthy tpisejpLk NehNaahk

gFjjpit ,uzlhy ghur RuKWk

Kfjjpit %dwhd KjNjh\k fhZNk’

kejk c z lhdhy thA k‰Fk. k‰Fej thAt‰dhy m d y c z lhFk. ,ej thATk m d Yk ,u z LNk Ruj j‰wF fhu z q f shFk. kejk› thA› m d y %dWk $bdhy KjNjh\k c z lhFk.

Mkk cUthFk t‰jk

Ruj j‰wF K j d ikahd fhu z k ,iugig kwWk F l y ,tww‰y c z lhFk '**Mkk**' M Fk.

j twhd c z Tg goffj j‰dhYk jfhj eltbfifahYk F l y kwWk ,iugiga‰y mfd‰ kejk VwgLk NghJk› c z t‰dhy cUthffggll m d durk ruhf cUthfhky 'Mkk' v d f‰dw erRjjdikAila fgk ta‰ww‰y cUthf‰wJ.

,tthW cUthd Mk milahdJ ,iugiga‰y c s s thjk› g‰jjk› fgk Kjy‰a Njhlqfs‰y VNjDk xdW jd‰jJ (m) ,uz L Fwwqfshf NrueNjh jqfshy ,adwklLk ,sff‰ cggrnraf‰dwd.

,ggb ,sf‰ ngUjj milahdJ ca‰udiy nts‰ggLjj‰› rluhff‰d‰iaf FiwjJ clwF tdikj juf$ba c z Tfis ru‰ahf nru‰ffnthllhky nraf‰wJ. ,ej nru‰ahj c z T FokGfs urjij nrYjJf‰dw ehsqfisAk kwWKss ka‰uJisfisAk miljJ› t‰aut‰aid FiwjJ t‰Lf‰wJ.

mjdg‰d mfFokGfs gfFthrajj‰y ,awifaha c s s clwwia t‰r‰w‰ NknyOgg‰› cly KwWk m t t d iy gutrnraf‰wJ. ,tthW fj‰jJ vOej m d y **'Ruk'** v d g gLf‰wJ. ,ej Rukhd J ts‰› moy› lak Mf‰a Fwwqfs‰d khWjy› t d i k ,tww‰wF Vwg nts‰jNjhwwk milf‰wJ.

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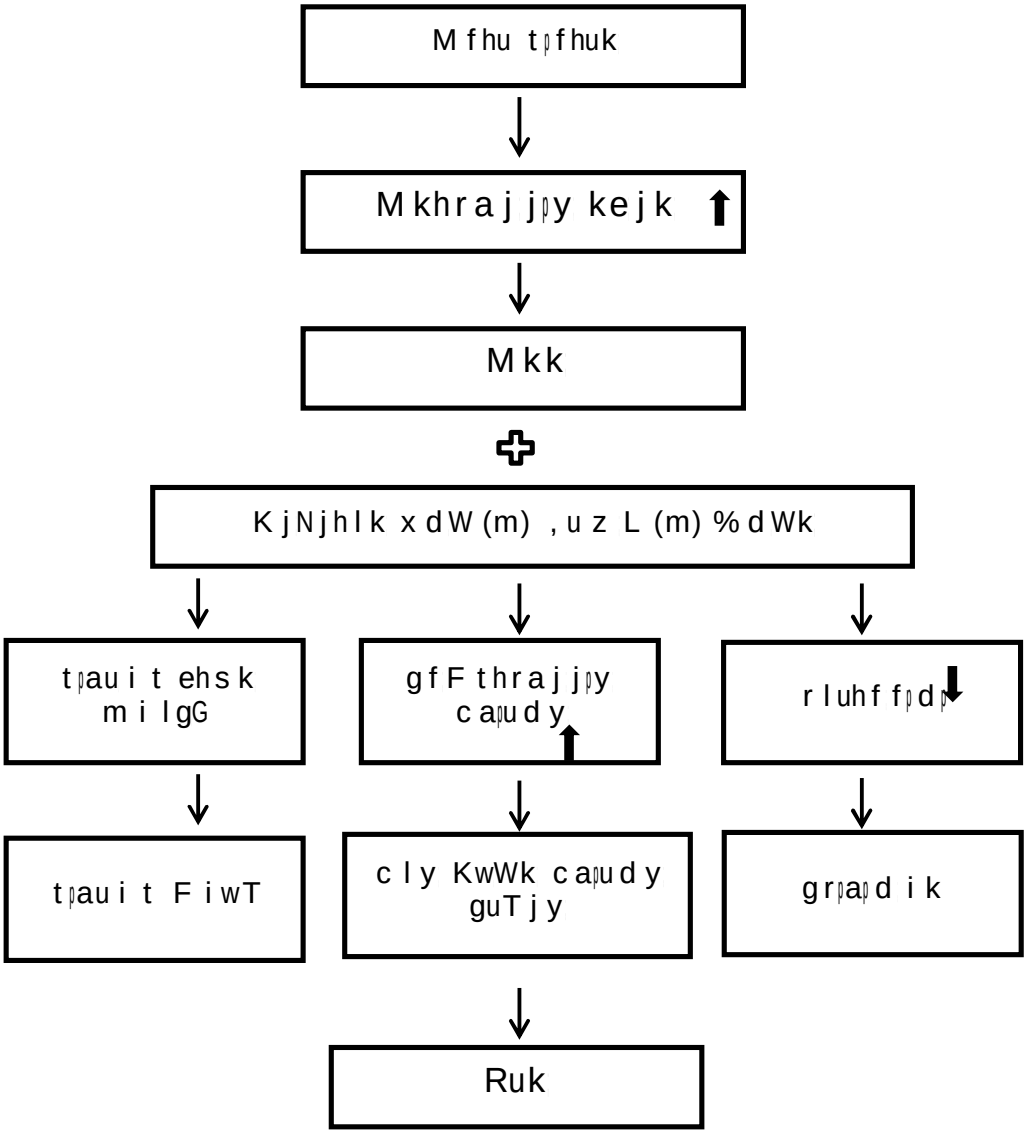
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Mkhrajjpy kejk
Mkk
KjNjhlk xdW(m) ,uz L(m) %dWk
tpauit ehsk milgG
gfFthrajjpy capudy
rluhffpdp
tpauit FiwT
cly KwWk capudy guTjy
grpapdik
Ruk

ehb e i l

‘cWjpAs s gpj jkJ Njhdwpy n tgG
c \ z thA mj jpRu kjprhuqf s
kwjpAl d fpWfpWgG igj jpa Nuhfk
t suNrhi f aonyupT fhejy i fgG’

- r j fehb

gpj j ehb j dpjJ kwp el ff pd Ruk FwpF z qf s fh Z k. NkYk›

- ‘thj Nrj Jk njhej ehb
- gpj j la njhej ehb
- gpj j thj njhej ehb

t i ff spYk Ruk kwWk mtwwpd t i ff shd mj jp Ruk›
K iwf fharry Kjypa Nehaf s NjhdWk v d ehb Ehyf spy
$wggl L s s J.

K f Fww N t WghL

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,ej j j Jt qf spy VNj Dk khwwk VwgL khdhy Neha VwgL k. K j y
khwwkhd J gQrG+j mbgg i lapy Vwgl L gpd K f Fwwkhfpa thj k
gpj j k fgk ghjpgg i lAk. , t thW c z lhd ghjpgghd J c ly jhJ f f s
kwWk kyqf spd thapyhf n t spggL k.

‘kpfpDk F iwapDk Neha nraAk EhNyhu
t spK jyh na z zpa %dW’

- jpUf Fws› kUeJ mjpfhuk.

Ruk Nehapy K f Fwwqf spd epi y

thj k

g i l f Fk j d i kf nfh z l thj j jpd F z qf s nefporrp› guT j y›
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,Ujjy› vdgjhFk. thjk ghjpffggbd ,twwpd F z qfs kpFeNjh FiweNjh fhZk.

- gpuh z d - Ruk› %rR tpl rpukk c z lhFk
- mghd d - rpWeu F iwT› kyrrpffy (m) foprry c z lhFk
- tpahd d - c l y ty› c l y KOtJk ntggk guty
- cjhd d - c l y t d i k F iwT› Fuy fkky fhZk
- rkhd d - grpfF iwT c z lhFk
- ehf d - f z epw khWghL
- $uk d - f z z py eu t b j y
- fpUfud - eh twlrp› Jkky› ,Uky c z lhFk
- Njtjjjd - Jhffkpd i k
- jdQrad -

gpjjk

c l i y f fhfFk j d i kAi la moypd F z qfs nt JgGjy› Ez zpa j d i k› eu j d i k› neagG› #L c z lhfF j y› guTjy Mfpad thk. c z T nrupkdk› n t k i k› grp› euNt l i f› R i t› mwpT ,twwpd cUthffjjpwF Ji z g Gupt J gpjjkhFk

- m d wgpjjk - grpapd i k c z lhFk
- ,uQrfk - ,ayG
- rhjfk - c l y NrhuT› k d NrhuT c z lhFk
- gpuhrfk - c l ypy n t ggk fhZk
- MNyhrfk - f z z py eu t b j y fhZk

fgk

c lypy c s s fopTf i s n t spNawwp c l i y e d dpi yapy i t j J ,Uff c j Tk fgjjhJ tpd F z qfs neagG› kejk› tOtOgG› jpz i k Mfpad thk. grp› euNt l i f› Jauk› f y f fk› n t ggk ,twiwg nghWjJf nfhs Sjy› neagG Kjypad fgjjpd ,awi f g z Gfs MFk.

- mtykgfk - Rujjjpy %rR tpl rpukk fhzggLk.
- fpNyjfk - czT nrupahik› kejk fhZk.
- Nghjfk - eh Rita pdik czlhFk.
- jwgfk - fz zpy eu tbjy.
- rejpfk - fyfspy typ

gpzpawpKiwik

clypy czlhFk Nehafis nghwp› Gydfisf nfhzL fzpjjy

- nghwpahywpjy
- Gydhywpjy
- tpdhjy

nghwpahywpjy

nka - Njhypy ntggk fhzy

tha - eh khT gbeJ fhzy

fz - nts topkQrspjJ fhzy

%fF - %ffpy eu tbjy

nrtp - ,ayG

Gydhywpjy

CW - Njhy twlrp

Rit - Ritapdik

ghuit - kqfpa ghuit

kzk - ,ayG

xyp - fhJ ,iurry

tpdhjy

Nehahspapd ngau› taJ› njhopy› ,lk› epwk› FLkg tuyhW› FLkg #oepiy› Nehapd fhyk› Nehapd Keija tuyhW› fhy khWghLfs kUjJtk nraJ nfhzljwfhd tuyhW kwWk czT Kjypa goffto ffqfs gwwpa jftyfis Nehahsp myyJ ngwNwhhplk NflL mwpjy.

Ruk Nehaµy v z t i f NjuT

Nehaµ i d f f z µggjwFj J i z GuµAk toµK iwf i s vlL t i f f shf r µj j ufs tFj J s s du.

m i t›

- ehb
-] guµrk
- eh
- eµwk
- nkhoµ
- tµoµ
- kyk
- rµWeu

‘nkaFwµ njhdµ tµoµ eh ,Ukyk i fFwµ’

- Nj iuau

‘ju zµAs s tµahjµ j d i d allhq f j jhy
jhdwµa Nt z L t J ahNjh n t d dµy
jµu zµaNjhu ehb f z f s r j j k njhL
Njf j j µd J guµrk tU z k ehf F
,u z ky %j j µukh kµi t f nslLk’

- F z thfl ehb

ehb e i l

ek c lyµd Neha eµi yaµi d f z µggj µy gµujhdkhf nrhyyggL t J ehb e i l f z µgG K iw MFk. ehbaµd %yk caµujhJ f f sµd eµi y mwµaggL fµwJ.

caµhj j hJ f f s NjhdWk tµj k

,l f i y+ mghd d = thj k

gpqfiy+ gpuhzd=gpjjk

ROKid+ rkhdd=fgk

ehbahdJ kzpfflby ,UeJ xU tpuy mqFyjJfF fo Miuvdgpd kJ Msfhlb tpuy› eL tpuy› Nkhjpu tpuy mOjj czuggLk. vztifj NjuTfspy ehbNag gpujhdkhf $wgglL ,Ugg pDk FoeijfSfF ehb eil rupahf GyGgLtJ ,yiyvd kUjJt Ehyfspy Fwpggplgg lLssJ.

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$wNt KbahJ vtufFf fplLk

gzblNt ,ggulir ahujhd fhzghu’

-Neha ehly Neha Kjy ehly jpulL-1

vdNt Ru Nehapy FoeijfSfF ehb fzpggJ ,ayhj xdwhFk. edF tsuej FoeijfSfF klLNk ehb fzpffKbfpwJ.

]gupkr - Njhypy ntggk› twlrp fhzggLk.

eh - eh twlrpgbeJf fhzy.

epwk - eh epwk ntz ikahf khgbeJf fhzggLk› fzfs kQrspjJ (m) ntSjJf fhzy

nkhop - Fuy fkky› Fuy xyp jhoeJ fhZk

tpo - fz zpy eu tbjy› kQrspjJ (m) ntSjJ fhzy

kyk - kyrrpffy (m) foprry fhzggLk

eufFwp

rpWeug gupNrhjid Kiw ehbeil rupahfg Gygglhj epiyfspy ghjpffgglLssf Fwwqfiis mwpagga dgLfpwJ. rpWeupd ,ayGfs leJ. mit› epwk› vil› kzk› Eiu› vQry Mfpad thk. Ruk Nehapy rpWeu mstpy FiweJf fhzggLk.

epwk

Ru Nehapy rpWeu kQrspjJ ntspggLk

‘Ruggp zp mupr djNjhaq fhlLk’

- Neha ehly Neha Kjy ehly -1

neaf Fwp

‘gp z pAsNshu e i uNawwg nghOKk i t j jggpd du
J z pTW JUkgp ny z n z a Njhajnjh U Jspa t pl lhy
m Z fpeug ghkgpw fh z pd m dpyNeha t l lkhapd
j z pt pyhg gpj jNehahe jqF Kj i jaNehNa’

-euneaf Fwp mWrut pUj jk

eupy t pOk xUj Jsp v z n z ahd J
ghk i gg Nghy e z lhy - thjk
Nkhj puk Nghy fh z ggl lhy - gpj jk
K j Jg Nghy mggbNa , Uejhy - fgk M Fk

-rpj j kUj J thqf RUf fk

gUt fhyqfs

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fgk N twWepi y t surrpg ngWk fhyk - , sNt dpyfhyk
gpj jk j d dp i y t surrpg ngWk fhyk - fhufhyk
gpj jk N twWepi y t surrpg ngWk fhyk - $ jpufhyk
thjk j d dp i y t surrpg ngWk fhyk - K JNt dpyfhyk
thjk N twWepi y t surrpg ngWk fhyk - fhufhyk

epyk

FwpQrp› K y i y› kUj k› neaj y kwWk gh i y K jypa vej epy t i fapy thOk k f f S f Fk RuNeha t Uk. Ru Neha v yyh Nehaf S f Fk murd v d f $wggl L , UggjhYk› jwNgh i jaf fhyepi y khWghL f s kwWk c z T K i w khWghL f spdhYk v t t i f epy j jpd tuf Fk Ruk c z lhFk.

kUjJt to¡Kiw

Ruk cz lhtjwF ta¡ww¡y cz lhf¡dw NfhshWfNs Kjdikaha e¡wFkhjyhy mjid Kjy¡y effNtz Lk

1. Fwwqfisj jdd¡iyggLjj
   - glbd¡
   - thej¡
   - fo¡rry
   -]Ntjdknraayhk

glbd¡ ,Ljy Ru NehafF r¡wgghff $wgglL ,Ugg¡Dk t¡Ujju› r¡W Foeijfs› ruuk¡isjjtufSfFk› cly tdikawwtufFk glbd¡j jqif t¡ist¡fFk vdgjhy› Foeijf SfFg glbd¡ ,Ljy jt¡ujjy Ntz Lk.

-r¡jjkUjJthqf RUffk

2. ‘r¡W cz T ngUkUeJ’ v.fh nghbau¡r¡f fQr¡› RfF› nfhjjkyy¡f fQr¡› gQrKlbf fQr¡ nfhLffyhk.
3. fharR Mw¡a nteeu mj¡fk gUfr nrajy.
4. Rujijf flLggLjjf $ba kUeJfis toqFjy.
5. Rujj¡wF Mfhjg nghUlfis efFjy v.fh.ghy› vznza› ,seu› Fs¡uej NrhW› ,iwrr¡› Nfho¡› khqfha› gioa fQr¡ Kjy¡a cz T tiffis effNtz Lk.

LINE OF TREATMENT

Siddha treatment is not only for complete healing but also prevention and rejuvenation. It is essential to know the Disease, Etiology, Mukkutra Nilai,and Nature of the patients and severity of the illness.The aim of the treatment is based on

- To bring the three kuttrams into normal equilibrium state.
- Treatment of the disease by internal medicines.
- Diet regimen
- Restoration

Regarding the treatment of suram, various medicines are stated in siddha literatures. Among them the trail medicine **"Vettumaran kuligai"** has been selected.

Dosage:

65mg size, 1 pill, twice a day(According to age).

Adjuvant:

Ginger juice

During the course of the treatment, the patients were advice to follow certain restrictions regarding diet and physical activities.

REVIEW OF LITERATURE

MODERN ASPECT

FEVER

"**Fever**" also known as "**pyrexia"** and febrile response. Pyrexia is from the Greek word.' **Pyr**' means '**fire**'. "**Febrile"** is from the Latin word. Febrile means fever and archiacially known as ague. Fever is one of the most common medical signs.it is part of about 30% of health care visit by children.

HISTORY

A number of types of fever were known as early as 460 BC to 370 BC when Hippocrates was practicing medicine including that due to malaria (tertian or every 2 days and quartan). It also became clear around this time that fever was a symptom of disease rather than a disease in and itself.

"Fever has evolved as a host defense mechanism which was preserved within the animal kingdom through hundreds of millions of years of evolution".

DEFINITION

Fever is a controlled increase in body temperature over the normal values for an individual.

The normal body temperature in children is higher as compared to adults, varies between 36.5° C and 37.3° C {98.4°-100° F} on rectal measurement and exhibits a normal circadian diurnal variation being lowest between midnight and 6 am and maximum between 5 pm and 7 pm.

Body temperature is regulated by thermo sensitive neurons located in the preoptic or anterior hypothalamus that respond to changes in blood temperature as well as to direct neural connection with cold and warm receptors located in skin and muscle . Thermoregulatory responses include redirecting blood to or from cutaneous vascular beds, increasing or decreasing sweating, extracellular fluid volume regulation (via arginine vasopressin) and behavioral response, such as seeking a warmer or cooler environmental temperature.

EPIDEMIOLOGY

About 5% of people who go to an emergency room have a fever.

MEASUREMENT

The core body temperature can be measured inside the **oral cavity, axilla**, **rectum, ear canal and over the temporal artery**.

The rectal method is the most accurate method for measuring temperature and fever is defined as rectal temperature of more than 38℃ or 100°F. However measurement of rectal temperature is not always possible.

In children below the age of 4 to 5 years axillary temperature may be used. The axillary temperature is on average 0.5℃ to1℃ (OR) 1°F TO 2° F lower than rectal temperature and fever is defined as axillary temperature 37.2° C or 99°F. In infants below the age of 3 months if the axillary method shows fever it should be confirmed by rectal temperature.

In children above the age of 4 to 5 years the oral method is suitable. The oral temperature is 0.5° to 1°F (OR) 0.25° C to 0.5° C lower than the rectal temperature and fever is defined as oral temperature more than 37°.5 C or 99°.5 F.

To measure temperature both mercury and electronic thermometers are available. The electronic thermometers are convenient and take only 30 seconds to record temperature, but are subjected to calibration errors.

The mercury thermometers take 2-4 minute to record temperature and they are inexpensive and especially suitable for home use.

Infrared thermometer used for measuring ear or temporal artery temperature measure rapidly and closely approximate to rectal temperature,but are expensive.

HOW TO MEASURE TEMPERATURE

AXILLARY TEMPERATURE

For taking an axillary temperature clean the thermometer from bulb to stem. Check the thermometer for minimum reading. Wipe away the axilla with a dry cloth and place the bulb of the thermometer in the axilla. Place the same arm against the chest wall to hold the thermometer in place. Keep in place for 3-5 minutes for maximum reading. While taking temperature in axilla take care to direct the tip of the thermometer towards the apex of the axilla

.ORAL TEMPERATURE

This method is used for the children above 5 years of age. It cannot be used for children with convulsions, mental retardation and with altered consciousness. It must be confirmed that the child has not had anything cold or hot by mouth within 15 minutes before inserting the thermometer in the mouth.

The child should be explained that the thermometer will be placed under the tongue and left there for five minutes. Then the thermometer should be cleaned from the bulb to stem and the bulb should be placed under the tongue. It should be removed from the mouth and should be cleaned from the stem to the bulb and reading should be taken.

RECTAL TEMPERATURE

This measure should be used with precaution while using for a new born baby, infants and unconscious patients. The child should be placed on the mother's lap, if possible on a bed. Neonates may be placed on their back and their legs can be holding up exposing the anus.The thermometer should be wiped from the bulb to the stem and mercury should be brought to the minimum reading by shaking it.

The Vaseline or jelly should be applied to the bulb anal area must be cleaned and buttocks should be separated. The bulb should be inserted through the anus up to 2-5 cm(for infants 2.5 cm and for elder children 5 cm) in the rectum .It should be held in place for 3 minutes. Then it should be removed, wiped from stem to bulb and reading should be taken.

ETIOPATHOGENESIS

Causes of fever are varied including infections,vaccinations,biologic agents,tissue injury,malignancy,drugs,auto immune disease,granulamatous disease,metabolic disorder and inherited disorders such as mediterranean fever.These may result in the production of endogenous pyrogens,such as IL-(1),IL-(6).Tumor necrosis factor (TNF)-α,interferon β,Interferon γ and lipid mediators such as prostaglandin E-2,which alter the temperature set point in the anterior hypothalamus, leading to elevated body temperature.

Types of fever:

Continuous fever

Temperature remains above normal throughout the day and does not fluctuate more than 1°C in 24 hours. e.g. lobar pneumonia, typhoid, meningitis, UTI, (or) typhus.

Typhoid fever may show a specific fever pattern, (wunderlich curve of typhoid fever), with a slow stepwise increase and a high plateau.

Intermittent Fever:

The Temperature elevation is present only for a certain period, later cycling back to normal. e.g. malaria, kala - azar, pyaemia, (or) septicemia.

Following are its types:

- Quotidian Fever, with a periodicity of 24 hours, typical of plasmodium falciparum (or) plasmodium knowlesi malaria
- Tertian Fever:

  (48 - hour periodicity), typical of plasmodium vivax (or) plasmodium ovale malaria.
- Quartan fever:

  72- hour periodicity, typical of plasmodium malaria.
- Remittent Fever:

  Temperature remains above normal throughout remains above normal throughout the day and fluctuates more than 1°C in 24 hours, e.g., infective endocarditis, brucellosis.

Pel- Ebstein fever:

A specific kind of fever associated with Hodgkin's Lymphoma, being high for one week and low for the next week and so on.

Febrile neutropenia:

It is a fever in the absence of normal immune system function. Because of the lack of infection fighting neutrophils, a bacterial infection can spread rapidly.This fever is, therefore, usually considered to require urgent medical attention.

Febricula:

It is an old term for a low grade fever, especially if the cause is unknown, no other symptoms are present, and the patient recovers fully in less than a week.

Hyperpyrexia:

Hyperpyrexia is a fever with an extreme evaluation of the body temperature greater than (or) equal to 41.5℃ (106°.7 F). Such a high temperature is considered a medical emergency as it may indicate serious underlying condition (or) lead to significant side effects. The most common cause is an intracranial hemorrhage. The most common cause other possible causes include sepsis, Kawasaki syndrome, neuroleptic malignant syndrome, drug effects, serotonin syndrome and thyroid storm.

Infections are the most common causes of fevers. However, as the temperature rises other causes become more common.

Infections commonly associated with hyperpyrexia, include, Roseola, measles and enteroviral infections. Immediate aggressive cooling to less than 38.9℃ (102°. 0F) has been found to improve survival.

Hyperthermia:

Hyperthermia is an example of a high temperature that is not a fever. It occurs from a number of causes. Including heatstroke, neuroleptic malignant syndrome, malignant hyperthermia and idiosyncratic drug reactions.

Signs and symptoms

A fever is usually accompanied by sickness behavior, which consist of

- Lethargy,
- Depression,
- Anorexia,
- Sleepiness
- Hyperalgesia
- the inability to concentrate.

Fever in children symptoms

Signs and symptom of fever may be obvious or subtle.The younger the child the more subtle the symptoms,

Infant may,

- Irritable
- Fussy
- Lethargic
- Quiet
- Feel Warm (or)hot
- Not feed normally
- Cry
- Breathe rapidly
- Exhibit changes in sleeping (or) eating habits

Verbal children may complains of,

- Feeling hotter (or) colder than others in the room who feel comfortable
- Body aches
- Headache
- Sleeping more or having difficulty sleeping
- Poor appetite

CLASSIFICATION OF FEVER SYNDROMES

1. Fever without focus
2. Fever of unknown origin

FEVER WITHOUT FOCUS

This term refers to fever of acute onset and short duration(less than one week) without any localizing symptoms or any clinical sign on physical examination.It is a cause for concern as young children often shows limited signs of infection making it difficult to distinguish between serious bacterial infection from self limiting viral infection.

CLINICAL DIFFERENCE BETWEEN VIRAL AND BACTERIAL INFECTION

VIRAL INFECTION	BACTERIAL INFECTION
Abrupt onset	Insidious onset
Duration usually 3-5 days	May last for more than 7 days
Prodorme usually present	No prodorme
Presence of rash almost always suggest viral etiology	Very few bacterial conditions produce rash.
No localized findings	May have systemic localization and organomegaly
Seasonal incidence	No seasonal variation
Many members in the family may be affected simultaneously	Isolated cases
Investigation usually normal	Elevated WBC,CRP Positive culture positive x-ray suggestive of pneumonia
Majority self limiting	Majority require anti biotic therapy

FEVER OF UNKOWN ORIGIN

FUO is defined as fever greater than 101° C lasting for 3 weeks or more for which no cause is apparent after one week of outpatient investigation. Practical definition is fever greater than 101° F measured on several occasions over a 7 day period.

CAUSES

INFECTION

Infections account for 60-70% cases in children

- Enteric fever
- Malaria

- UTI
- TB
- Chronic hepatitis
- HIV
- Mastoiditis
- Sinusitis
- Osteomlyelitis
- Meningitis
- Infectious mono nucleosis
- Infective endocarditis
- Brucellosis
- Cytomegalo virus
- Toxoplasmosis
- Kala-azar

AUTO –IMMUNE

- Juvenile Rheumatoid Arthritis
- Systemic lupus erythematous
- Kawasaki disease
- Inflammatory bowel disease
- Poly-arteritis nodosa

MALIGNANT

- Leukemia
- Lymphoma
- Langerhan cell cystocytosis

EVALUATION OF A FEBRILE PATIENT

Evaluation of the causes of fever is important.If temperature is very high illness should be suspected. It is useful to classify fever as short duration fevers and prolonged fevers as etiology and management differs. The pattern of fever is sometimes useful in arriving at a diagnosis.

Intermittent fevers are characteristic of malaria. Biphasic fevers are seen in illnesses such as dengue and leptospirosis and periodic fevers (fever syndrome with regular periodicity) are seen in cyclic neutropenia,PFAPA Syndrome (Periodic fever,Adenopathy,Pharyngitis,Apthous ulcers) and hyper immunoglobulin(IG)D-syndrome.

SHORT DURATION FEVER

Access to localizing symptoms the type of fever can be evaluated.

A) Fever with an identifiable focus

- Furuncles
- Abscess
- Lymphadenopathy
- Tonsillitis
- Joint-bone infections
- Rash
- Hepato -splenomegaly

B) **FEVER WITH RESPIRATORY SYMPTOM**

(1)**Upper respiratory**

- Ear discharge
- Head ache
- Acute otitis media
- Sinusitis

(2) **Lower respiratory**

- Tachypnea
- Distress
- Pneumonia
- Empyema

C**) FEVER WITH ABDOMINAL SYMPTOMS**

- Diarrhea
- Abdominal pain
- Dysuria

D**) DERMAL INFECTIONS**

MANAGEMENT OF FEVER

- Tepid water sponging
- Anti-pyretics
- Fluid management
- Appropriate anti-biotics
- Diet

TEPID WATER SPONGING

A tepid sponge helps to reduce the body temperature, to relieve discomfort, to soothe the nerves and promote sleep.

Tepid water sponging procedure

The purpose of the tepid sponge explains the mother and the patient, if possible. The required articles should be at the bedside and the patient should be screened. The patient should be covered with the light sheet and his/her clothes should be covered. The bed should be protected with the mackintosh and towel.

Tap water should be taken is a bath basin and the sponge cloth should be put in the water. The wash cloth should be sponged from the shoulder to tip of fingers in long strokes, using alternate sponge cloth. The water should be changed during the procedure (or) ice can be added to the water to maintain the temperature of the water. Usually the sponge is continued for 15 minutes. After completing the sponge, the clean clothes should be put on and the patient should be made comfortable.

After completing the procedure, the soiled linen should be changed and dry bed should be provided.

The patient's temperature, pulse and respiration should be assessed and recorded.

The patient should be observed throughout the procedure. If he/she develops a chill, the procedure should be stopped patient should be dried & covered.

Preventive measures

To avoid infectious and vector borne fevers we should take preventive measures.

- Vaccinations
- Improving self hygine
- Improving sanitation

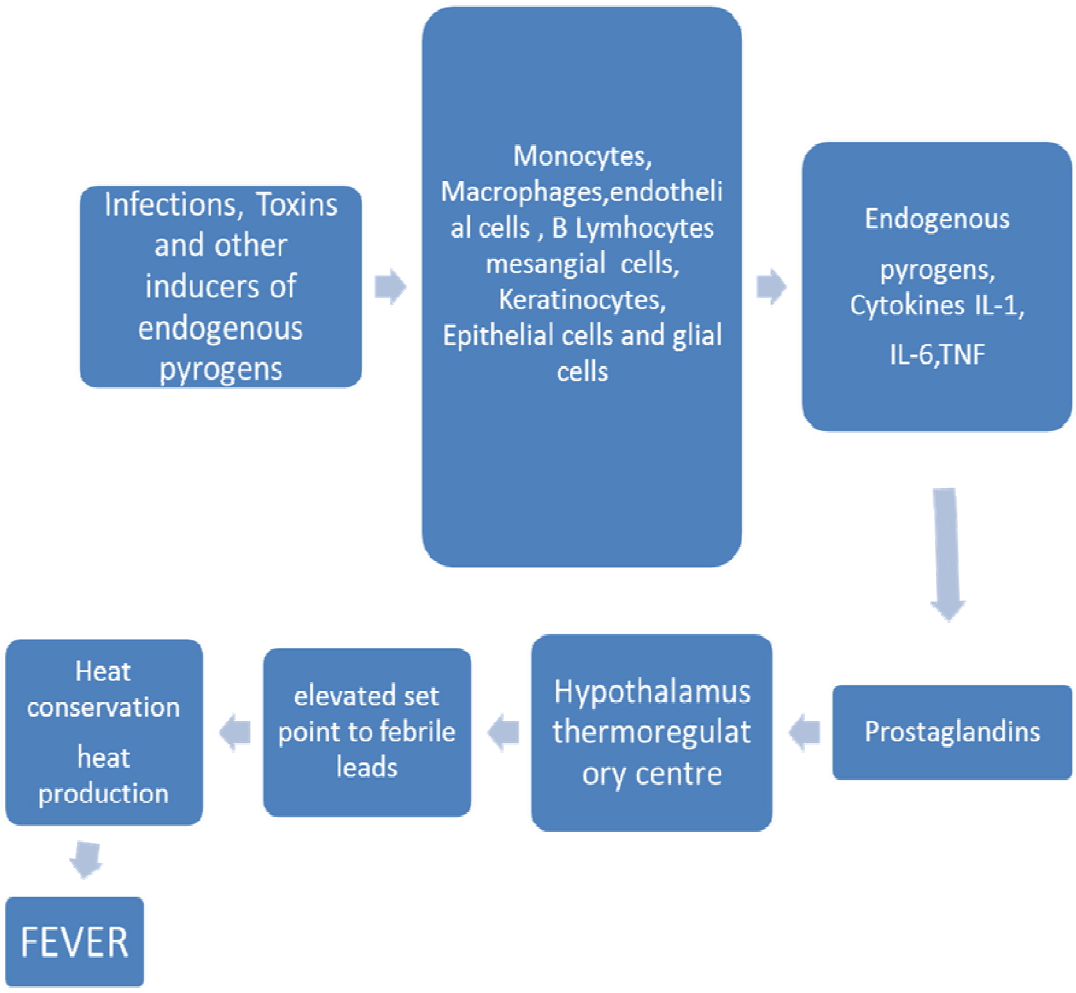


Fig.1. Etiopathogenesis of fever

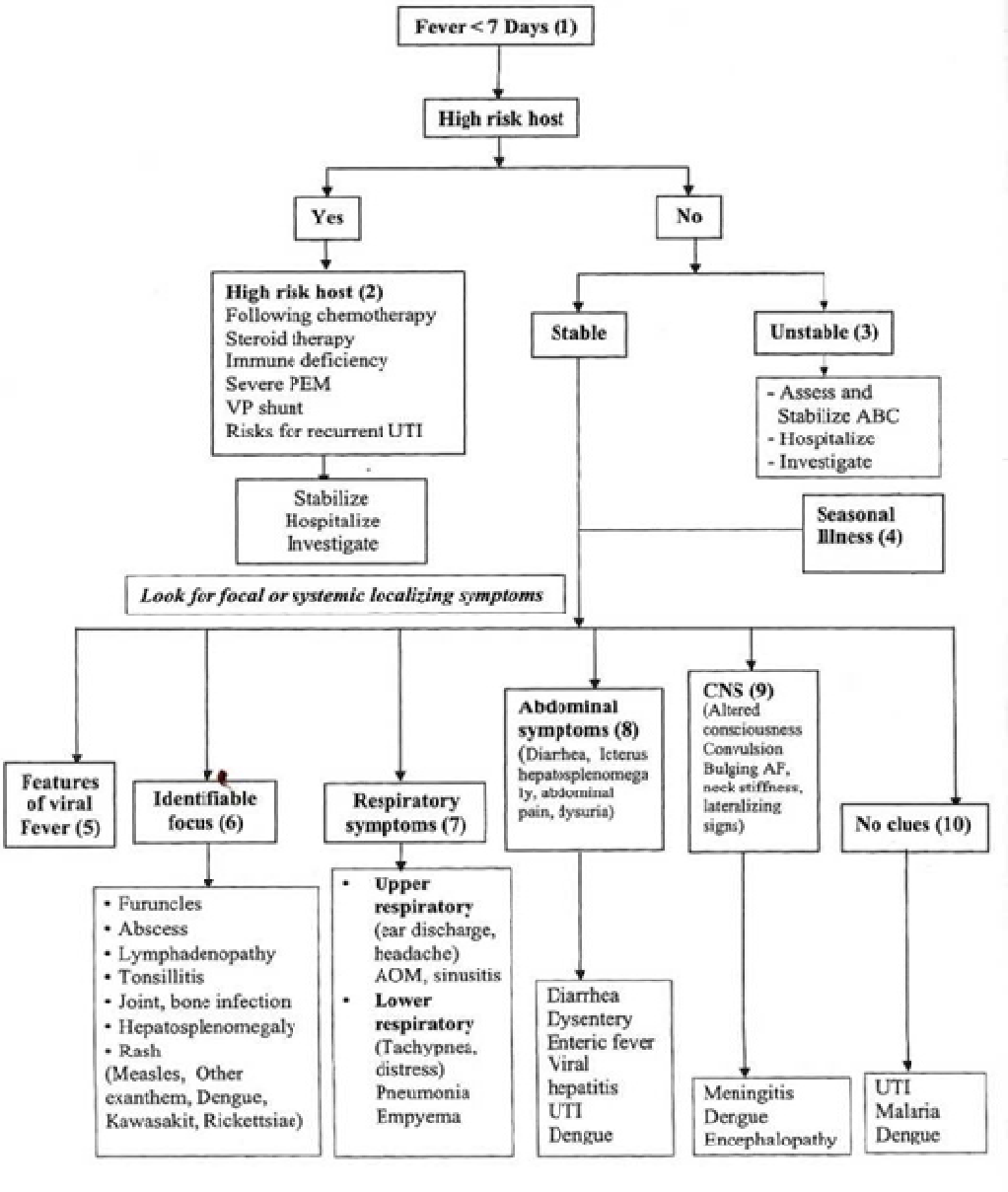


Fig.2 Clinical assessment in short duration fever

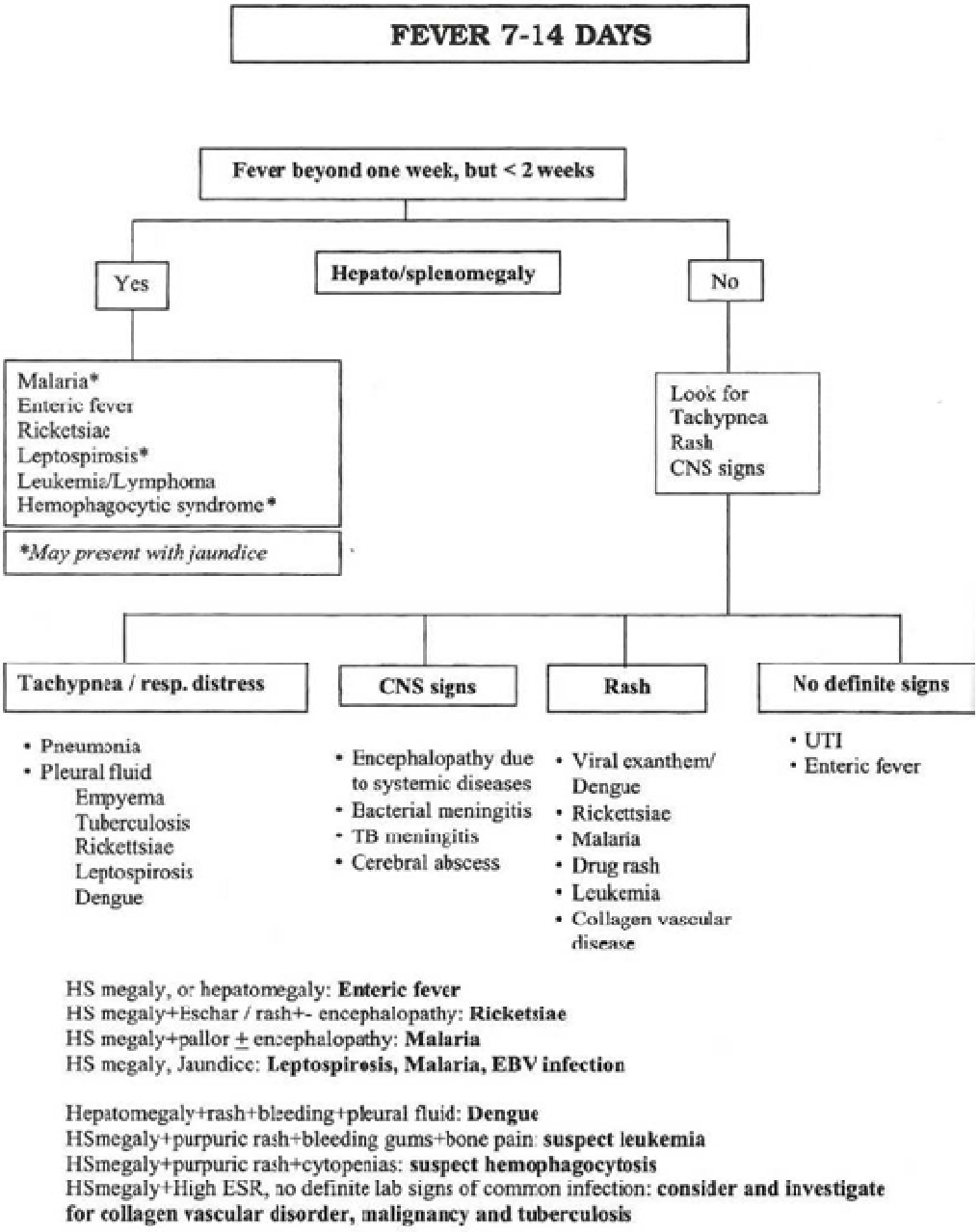


Fig.3 Clinical assessment in long duration fever

MATERIALS AND METHODS

The study on clinical evaluation of the disease "suram" with the trial drug "vettumaran kuligai" was carried out in postgraduate kuzhanthai maruthuvam department at Government siddha medical college, palayamkottai.20 patients of both male and female children were selected for the studies and admitted in postgraduate kuzhanthai maruthuvam In patients ward for minimum three days and advised for further follow up as out- patients. Another 20 patients are treated with trial drug in the out patients ward.

SELECTION OF PATIENTS

The present study covers both male and female children of pediatric age groups. All cases were carefully examined before admission. Those who fulfilled the criteria of "suram" according to the clinical features in siddha and modern reviews were selected with the aid of questionnaire.

STUDY PARTICIPANTS

INCLUSION CRITERIA

1. AGE : 1 to 12 yrs
2. SEX : Both male and female children
3. Infectious fever due to,
   - Respiratory infection
   - Viral infections
   - Urinary tract infections
   - Bacterial infections
4. Patient parents who are willing for admission and stay in IPD or willing to attend without drop
5. Parents of the child who cooperate for investigations
6. Parents willing to sign the informed consent stating that he/she will consciously stick on to the treatment during seven days but can OPD out of trial of his or her own conscious discretion.

EXCLUSION CRITERIA

1. Children above 12 years

2. Fever due to brain infection

3. Fever due to malignancy

4. Fever of unknown origin

5. Patient with other serious illness who are on medical Emergencies

Withdrawal criteria

1. Fever more than 7 days not responding to the trial drug

2. If any adverse effect reactions and altered symptoms occurred during the drug trial

3. Intolerance to the drug

4. Patient turned unwilling to continue in the course of trial

5. Occurrence of any serious illness

Test and assessments

1.Clinical assessment

A .Symptoms of respiratory infections- fever, cough throat pain, sneeze, running nose, wheeze…

B Genito urinary symptoms- fever, dysuria,frequency of micturition, loin pain…

2**.SIDDHA ASSESMENTS**

- Nilam,
- kaalam,
- Uyirthaathukkal
- Udarthaathukkal,
- Envagai thervugal

3. Investigations

a)Blood investigation

Total WBC count,

Diffrential count of WBC,

Erythrocyte sedimentation rate,

Hemoglobin ,

ASO-titer

RA factor,

Total RBC count

CRP,

blood glucose

b) Urine

Albumin,

Sugar,

Deposits,

RBC,

Pus cells

Bile salt,

Bile pigments

c) Stool

Ova,

Cyst,

Stool culture

D) Special tests

Peripheral blood smear,

Blood culture,

Mantoux test,

X-ray

e) Siddha investigation

Neerkuri,

Neikuri.

Details of trial drug

Medicine	:	Vettu maran kuligai
Reference	:	pharmacopeia of hospital of Indian Medicine, Siddha. (Second edition)
Dosage	:	65 milligram pills,1 along with ginger Juice (according to age), two times per day
Duration	:	3 days, if not completely relieved, the Drug may be continued for 7 days.
Method of drug Administration	:	orally

FORMS

FormI : Selection proforma-used before admission to the trial

Form II: Assessment proforma

Conduct of the study

Patients satisfying the inclusion and exclusion criteria will be admitted to the trial. Informed consent will be obtained from the patients. The trial drug vettumaran kuligai is given for 3 days for OP patients should visit the hospital once in two days.

In each clinical visit clinical assessment is done and prognosis is noted .For IP patients the drug is given for three days and the clinical assessment is done daily.

Laboratory investigations are done 0 day, 3rd day, 7^{th} day of the trial. For IP patients who are not in situation to stay in the hospital for a long time are advised to attend the OPD for the further follow up.

Pharmacoloigical analysis of the trial drug was done at the department of pharmacology, K.M. College of pharmacy, Madurai.the details are given in annexure.

Biochemical analysis was done at the Department of Biochemistry, Government siddha medical college, Palayamkottai.

Anti- microbial study was done at Malar micro diagnostic Centre, Palayamkottai.

The Acute toxicity study of the trail drug was done at the department of Pharmacology, KMCH College of pharmacy, Coimbatore.

The details and the results are given in the annexure.

DRUG REVIEW

Preparation of dissertation drug "Vettumaran Kuligai."

Usage : Internal medicine

Reference : Pharmacopoeia of hospital of indian medicine,part-II-siddha.

INGREDIENTS:

NAME		QUANTITY
Venmilagu	-	0.125gm
Thippili	-	0.125gm
Omam	-	0.125gm
Naabi	-	0.125gm
Porikaaram	-	0.125gm
Lingam	-	0.100gm
Inji	-	2gm
Purified water	-	Required amount

The drug ratio according to literature, it has been maintained during the preparation of the trial drug.

Purification of drugs

In our siddha traditional system purification methods of drugs are used to decrease the toxicity and increase the bioactivity of the active ingredients.

Purification of Naabi:

Root tubers are cut into small pieces and kept in a clay pot; the cow's urine is added into the pot and kept in the sunny days for three days. Replacing the cow's urine every day. The tuber bark is peeled out and washed and dried to make naabi as pure and harmless.

Purification of porikaram

Fried under heat until the water content of vengaram is evaporate.

Purification of lingam

Soaking in lemon juice for three days. Replace lemon juice every day. Then washed in water and dried in sunlight

Purification of inji

Peeled the inji(ginger) and cleaned with water.

Purification of other three drugs:

The drugs venmilagu, thippili, and omam are fried under mild heat.

Method of preparation

Except inji all the other purified drugs are powdered and sift. Inji juice is prepared. Then all the powderd drugs are mixed well and kept into the kalvam the manual grinding instrument,and grind for three hours,by adding inji(ginger)juice.

After grinding, prepared pills of milagu size (65 mg) and dried up in shade.

Indication **:** All kinds of fever,janni,ceetham, etc.,

Dosage **:** 65 milligram size pills, 1-2 pills (according to age)

Adjuvant **:** Ginger juice

Expiry **:** One year

‘tuyLK auejkhj jiufLF gfF tk
kspUNj Dhwyjdu
nfhs shW Nkhuhz L.....”

-F zghlk- jhJ [t tFgG

Drug storage

The trial drug “vettumaran kuligai” stored in clean and dry glass bottles.

Dispensing

The trial drug “vettumaran kuligai” given in pills form in packets.

Properties of the dissertation drugs

1.nt z ksF

NtW ngaufs : fyid› fw› fhak› juqfy› kiyahsp

Botanical name : Piper nigrum

Family : Piperaceae

English name : White pepper

ksF gok gOjJ Njhy cjuejhy mJ nts isksF vdggLfwJ.

gadgLk cWgG : gok

Rit : ifgG› fhugG

jdik : ntggk

gpupT : fhugG

nghJF zk:-

kpsF:-

jahfp naqFk jphpAk ij ahtjJ

Nkhahk nyggbA Kz lhffhw- ghahJ

Nghejpkphth jqfpuejp Gz zUkkz z thfFk

fhejpnkath jrrYgigf fha

-Njud ntz gh.

kpsF tsp› j› fgfFwwqfs ,it midjijAk efFk. mdwpAk jpkphthjk foiy› tsp› rsp ,itfisAk mfwWk.

ntsis kpsF:-

ntsis kpsfUej tW fpuf zpg Nghk

jsS fgthje jhNdFk- csss

Ruk NghFe jgdkhk njhyNkfk Nghkpj

jpukghh vthfSfFQ nrgG

- mfjjpah Fz thflk

ntsis kpsfpdhy ehlgllf foprry› latsp Ruk› Ruk› Nkfk ,it NghFk. grp cz lhFk.

Chemical constituents

- piperine,
- piperamide,
- pipericide
- 6-sarmentine

Pharmacological actions:

- Stimulant ,
- Antiperiodic,
- Anti vaatha,
- Anti-inflammatory ,

- Anti-diarrheal
- Analgesic

Piper nigrum also having “bioavailability enhancing property”

2. jpggpy

NtWngaufs : fhkd› FNlhup› Nfhyfk› Nfhioa Wffp› ruk› rhb

Botanical name : Piper longum

Family : Piperaceae

English name : Long pepper

Rit : fhugG

jdik : ntggk

gpupT : ,dpgG

nghJF zk

‘flb najpuepdW fLNehnay yhkg zpAk
jplb tpidafYk Njfnkjj -Glbahk
khkDfF khkndd kwwtufF kwwt dha
fhkndd De jpggpypfFk if’

- Njudnt zgh

jpggpy pfLikahd laggpzpfisAk
mfwwp› clwF tdikaspfFk

Chemical constituents :

- Piperolactone,
- Piperine,
- Sylvatin
- Methyl piperate ,
- Piperlongimine

Pharmacological actions:

- Stimulant,
- Carminative

3.Xkk

NtWngaufs	:	mrNkhjk› jpggpak
Botanical name	:	Trachyspermum ammi,
Family	:	Apiaceae
English name	:	Bishop's weed
gadgLk cWgG	:	tpij
Rit	:	fhugG
jdik	:	ntggk
gpupT	:	fhugG

nghJFzk:

'rjRuq fhrQ nrhpahkhe jknghUky
Ngjpapiur ryfLgG Nguhkk - Xjpuky
gynyhLgy %yk gfkpit tNeh nad nrANkh?
nrhynyhLNghk Xknkdr nrhy "

- Fzghlk - %ypif

,jdhy laRuk› ,Uky› nrhpahkejk› nghUky› fopTry› Copy›
Flypiurry› ,iugG› gyNeha› gfk (FaaNuhfk) ,itfs Nghk.

Chemical constituents :

- Limonine,
- carvone,
- carvacol
- γ-terpentine,
- α-terpentine

Seeds also contains nutritional substances like

- Calcium,
- Iron ,
- Nicotinicacid,
- Thymine and
- phosphorous.

Pharmacological actions:

- Anti-fungal,

- Anti-bacterial
- Anti-inflammatory,
- Anti-oxidant
- Antifilarial

Thymol and carvacol are known to be either bactericidal or bacteriostatic agents depending on the concentrations.

Thymol kills the bacteria resistant to even prevalent third generation anti-biotics and multidrug resistant microbial pathogens.

4.ehg

NtWngaufs	:	ehg› trehg› tlk› kUjk
gadgLk cWgG	:	Ntuffoq F
Botanical name	:	Aconitum ferox
Family	:	Rannunculaceae
English name	:	Monk's hood, Wolf's bane
Rit	:	ifgG
jdik	:	ntggk
gu T	:	fhugG

ehg tiffs

1. nt z ehg
2. nreehg
3. ehehg
4. fU ehg

nghJF zk:-

thj ty kejkwy khwhf fggg zfs
XJFlL FdkeNjd XLqfhz - fhjyhjk
Gjj Nah lhUa Uk G+Tk tidFoNy
Rjj nraj eht ad Ngh nrhy.

- F zghlk -%y if

ehg adhy fothaffLgG› nrh ahik› lagg zfs› ngUNeha› Fdkk› Njs eQR eqFk.

midjJ tif ehg adhYk Ruk NghFk.

trehg -nghJ F z k

fbanjhU Fllq fdjj t ~ rddp
nfhbanjhU Fdkk FiyAk- gbay
jsujjp ntgGlNd jhfRuk jUk
tshgrir ehtjid thojJ

F z ghlk- %yif

grir ehg Fiw Neha eQR Kgg z F dkk vYkgd #L Ruk ehNtlif ,itfis tyfFk.

Chemical constituents:

- Bikhaconitine,
- Pseudaconitine
- Chasmaaconitine,
- Indoaconitine
- Veratoyl pseudoaconitine

Pharmacological actions:

- Anti periodic,
- Antipyretic
- Analgesic,
- Anti-inflammatory

Aconitum is the valuable drug as well as the toxic material.It can be used safely after purification processing. The TLC studies have shown that pseudaconitine and aconitine were converted into veratoyl pseudoaconine and benzoylaconine respectively in traditional ayurvedic sodhana method which is similar process in siddha system.

5. ,Qr

NtWngaufs	:	myyk Mujjufk
gadgLk cWgG	:	NtuffoqF
Rit	:	fhugG
jdik	:	ntggk
gu T	:	fhugG

,Qrp nghJFzk

“ ,Qrpf fpoqFf fpUky Iak Xffhsk
tQrpfFQ rddpRuk tdNgjp- tpQRfpdw
#iyaWk thjkNghe Jhz lhj jgdkhk
NtiyAWq fz zha- tpskG
-mfjjpah Fz thflk

,Qrpapd Fz Nk njdwp ayGl Diufff Nfsh
mQrpLQ rddpnayyh kfdwpLk gpjj Njhlk
neQrpdp ypUkw Nfhio nefpoejpLk fgqfs jdid
kpQrpdp tUNkh ntdW tpskgpLk NjtEhNy
-VL

- ,Qrp XU fwg kUeJ. ,J fgf Fwwj ijg NghfFk.
- ,Qrpapy ,Uky› <is› ntsNshffhsk› moy Fwwk› tspiy› KfFww Nehafs› Nfhiof $llk› nrhpahf fopTry ,it NghFk.
- grpAzlhFk.

Chemical constituents :

- Gingerols,
- β sitosterol
- Palmitate,
- Isovannilin
- Methyldiacetoxy-(4)-gingerol

Nutritional components:

- Iron,
- Calcium,
- Phosphorous,
- Potassium
- Thiamine,
- Riboflavin,
- Niacin,

- VitaminC

Pharmacological actions:

- Carminative,
- Digestive.

In recent studies, ginger is reported for various medicinal properties. They are,

- Hepatoprotective
- Nephroprotective
- Larvicidal activity
- Anti-bacterial
- Analgesic
- Anti-inflammatory

6. , yqfk

NtWngaufs : M z Fw› , qFyfk› filtddp fuggk› fyfffk› fhQrdk

English name : Cinnabar, Vermilion

Chemical name : Redsulphide of Mercury

nghJF z k

‘Ngjp RuQ reep ngUtu z enuhLj
fhjfb fhrq fugghdG z -N z hj
TUTyqf rqfjkh A+Wflb AkNghq
FUtpyqf rqfkjijf nfhs’
‘epyjjpy vOejgp z p eqfhf fpuejp
ryjJlNd # iyntb jhd fwWk-gyjjjhk
rhjpypqfjjpd F z j i jr rhwwpNd drddp
Kjy XJRuk NghNk xopeJ
- F z ghlk-jhJ[t tFgG

Njhwwjjpy ghjur cUffhfpa rptej epwKila yqfk› mJ Nruej kww kUeJfSk ,ur F z jijf nfh z L Jdgjij c z L g z Z fpdw Ngjp Ruk› rddp juhgG z › mjp%yk› fugghd› rpuqF›

Fllk› fpuejp› nfhLik nraAk R+iy› clypy kiwejpUfFk gpzpfisAkefFk.

Rit : ,yiy

tupak : ntgg tupak

Pharmacological actions:

- Restorative,
- Tonic,
- Alterative

Cinnabar is less toxic than many other form of Mercury. It contains insoluble $Hg^{2+}$and Hg^{+}.

7.ntqfhuk

English name	:	Borax
Chemical name	:	Sodium borate
Chemical formula	:	$Na_2B_4O_7.10H_2O$
NtWngaufs	:	nghupfhuk› fhuk› lqfdk› Jhkj ijalffp
Rit	:	,dpgGld $ba JtugG
tupak	:	ntggk
nraif	:	Fspurrpaz lhffp rpWeungUffp clyNjwwp

ntqfhuk - nghJFzk

‘nrhwp Gilnaz Fdkeik Nrhhpahrk
gwpfpufzp fyYhdk gdNdha - newpiaj
jlqfzqf gqfpUkp rhggtplQ reep
aplqfzqf yffpwNgh nkz”

‘ n t q f h u Q N r j J k j i j N t W g z Z N k f L F
j q F r ℘ y e h K w ℘ a j j h d t h q F k”

F z g h l k - j h J [t t F g G n t q f h u j j ℘ d h y f g M j ℘ f f k› G O› g h k G K j y ℘ a i t f s h y c z l h F k e Q R› r e j ℘ g h j k K j y ℘ a N e h a f s e q F k.

- n t q f h u k f g j i j A k› e u g g ℘ z ℘ i a A k e f F k.
- F s ℘ u R u k t u h k y j L f f n t q f h u j i j 260 k ℘ . f ℘ . K j y 520 k ℘ . f ℘ . t i u n t w w ℘ i y A l d n f h L j j y N t z L k.

Borax possesses

- Antiseptic,
- Antifungal,
- Antiviral
- Anti- inflammatory actions.

It is essential in maintaining calcium, magnesium and phosphorus in our body.

Borax has the capacity to nullify the effects of poisoning of all varieties.

Borax is known as an antidote for aconite poison.so that majority of the aconite containing formulation contain borax.

-Indian journal of history of science47, 2(2012).

வெண்மிளகு

ஓமம்

திப்பிலி

நாபி

வெங்காரம்

இஞ்சி

LINGAM

LINGAM SOAKED IN LEMON JUICE

NAABI SOAKED IN COW 'S URINE

NAABI AFTER PURIFICATION

VETTUMARAN KULIGAI

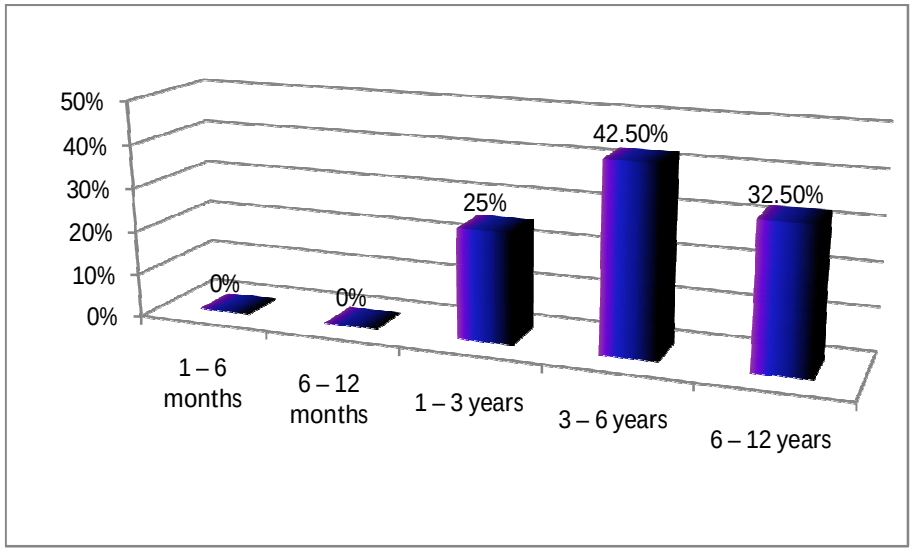
RESULTS AND OBSERVATIONS

Results were observed with respect to the following criteria.

1. Sex
2. Age
3. Religion
4. Economic status of the patient
5. Diet
6. Paruva kaalam
7. Thinai
8. Clinical features of SURAM during admission
9. Three dosha theory
10. Ezhu udarkattugal
11. Envagai thervugal
12. Neerkuri, Neikuri
13. Results after treatment

AGE DISTRIBUTION

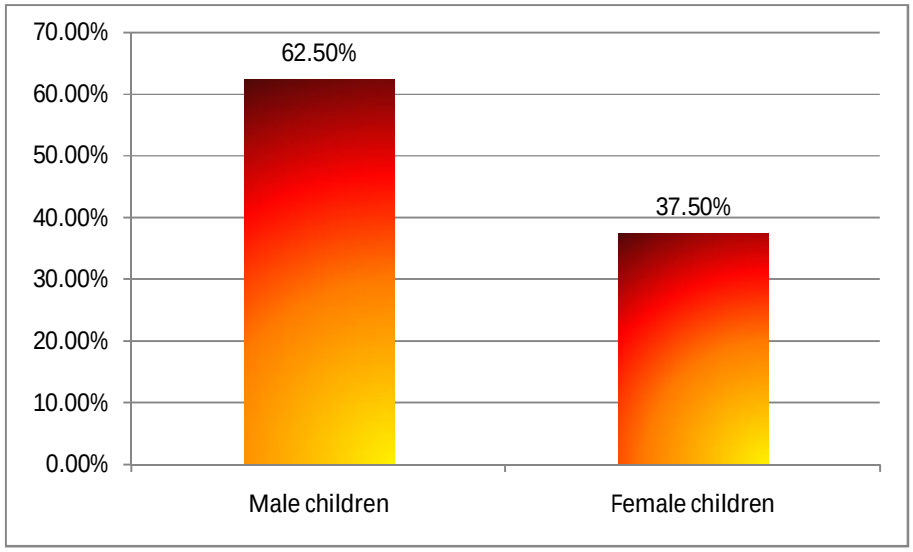
Sl.No.	Age	No.of cases	Percentage
1.	1 – 6 months (Kaapu paruvam)	0	0%
2.	6 – 12 months (Senkeerai paruvam)	0	0%
3.	1 – 3 years(Thalattu, sappani, Mutha and Varugai paruvams)	10	25%
4.	3 – 6 years (Ampuli sitril, siruparai, siruthaer viduthal – male child. Ammanai, Neeraduthal, Oojal – female child)	17	42.5%
5.	6 – 12 years (Siruparuvam – male child. Paethai and perthumbai – female child)	13	32.5%



Among the 40 cases 25% belonged to 1-3 years, 42.5% belonged to 3-6 years, 32.5% belonged to 6-12 years.

SEX DISTRIBUTION

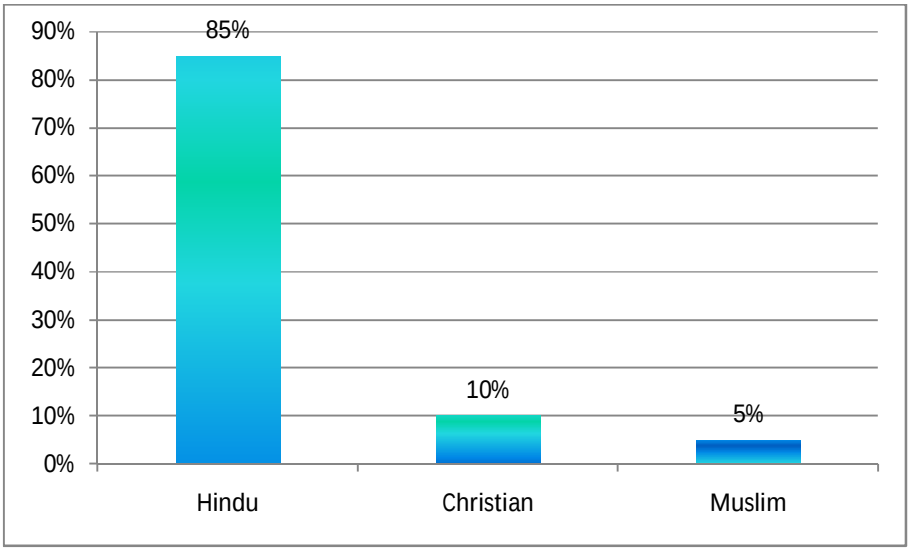
Sl. no.	Sex	No.of Cases	Percentage
1.	Male children	25	62.5%
2.	Female children	15	37.5%



Among the 40 patients selected 37.5% patients were Female children and 62.5% patients were Male children.

RELIGION DISTRIBUTION

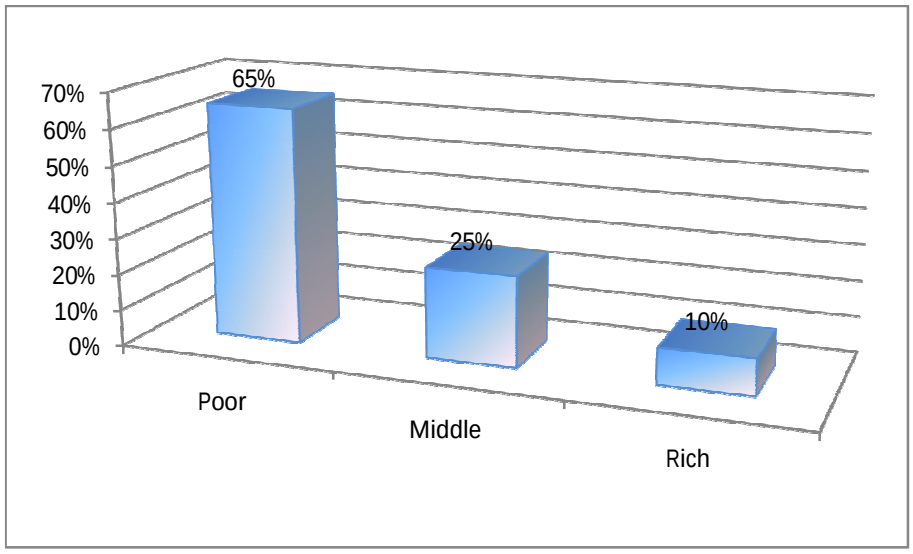
Sl. no.	Religion	No.of Cases	Percentage
1.	Hindu	34	85%
2.	Christian	4	10%
3.	Muslim	2	5%



Out of the 40 cases, 85% were Hindus 10% were Christians and 5% were Muslims

SOCIO– ECONOMIC STATUS OF THE PATIENT

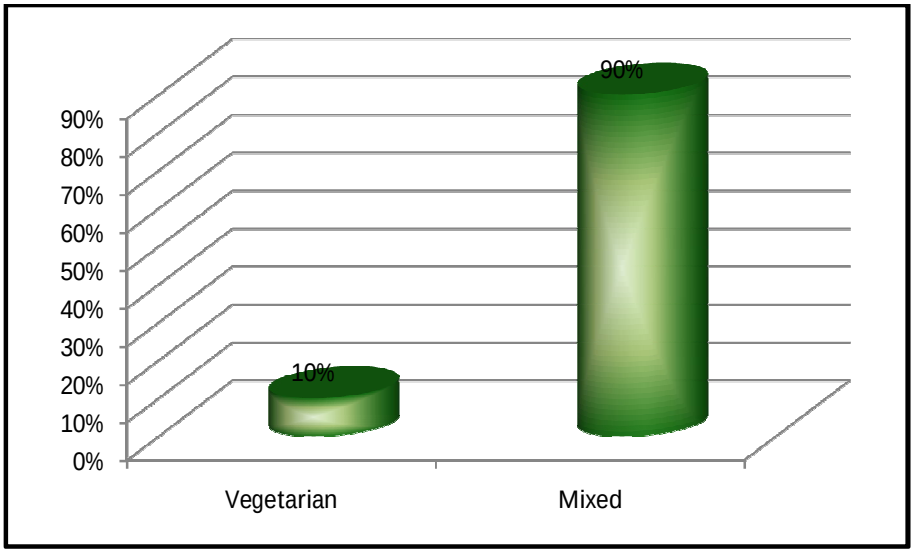
Sl. no.	Socio – Economic Status	No.of Cases	Percentage
1.	Poor	26	65%
2.	Middle	10	25%
3.	Rich	4	10%



Out of the 40 patients, 65% of cases were poor and 25% were middle class people and 10% of cases were rich.

DIETARY HABITS

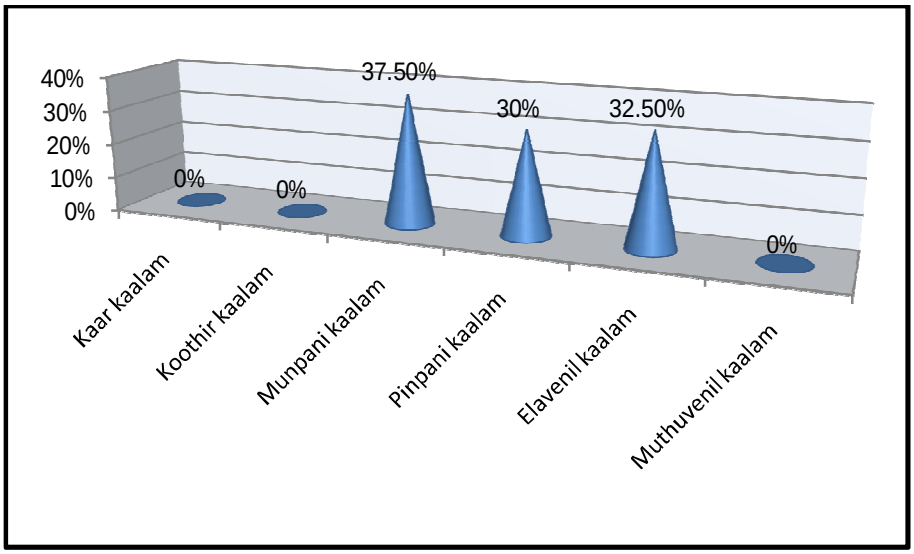
Sl. no.	Diet	No.of Cases	Percentage
1.	Vegetarian	4	10%
2.	Mixed	36	90%



90% of cases have mixed diet and 10% of cases were vegetarian diet.

SEASONAL HABITS

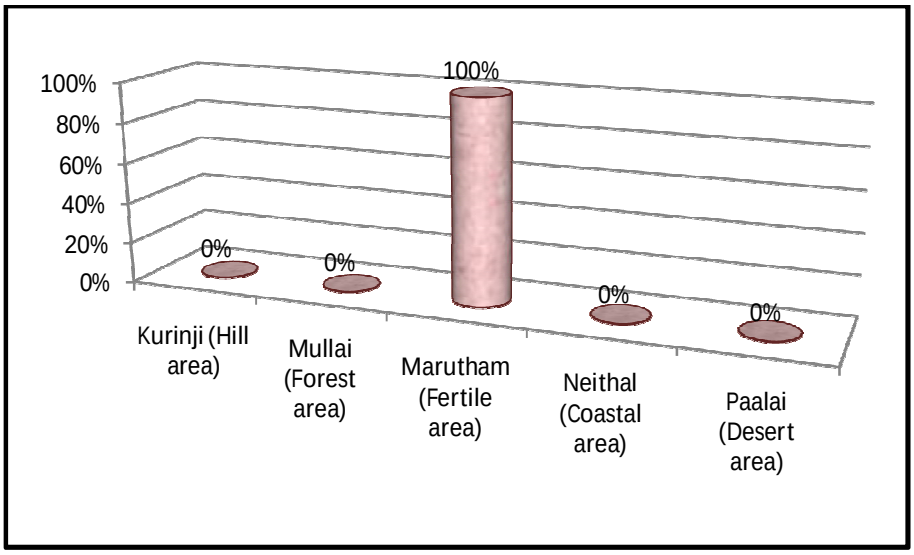
Sl. no.	Paruva kaalam	No.of Cases	Percentage
1.	Kaar kaalam (Aavani & puratasi)	-	0%
2.	Koothir kaalam (Iyppasi & Karthigai)	-	0%
3.	Munpani kaalam (Markazhi & Thai)	15	37.5%
4.	Pinpani kaalam (Masi & Panguni)	12	30%
5.	Elavenil kaalam (Chithirai & Vaigasi)	13	32.5%
6.	Muthuvenil kaalam (Aani & Aadi)	-	0%



Among the 40 cases selected, 37.5 % cases were affected in Munpani kaalam, 30% cases were affected in Pinpani kaalam, 32.5% cases were affected in Elavenil kaalam.

THINAI REFERENCE

Sl. no.	Thinai	No.of Cases	Percentage
1.	Kurinji (Hill area)	-	-
2.	Mullai (Forest area)	-	-
3.	Marutham (Fertile area)	40	100%
4.	Neithal (Coastal area)	-	-
5.	Paalai (Desert area)	-	-



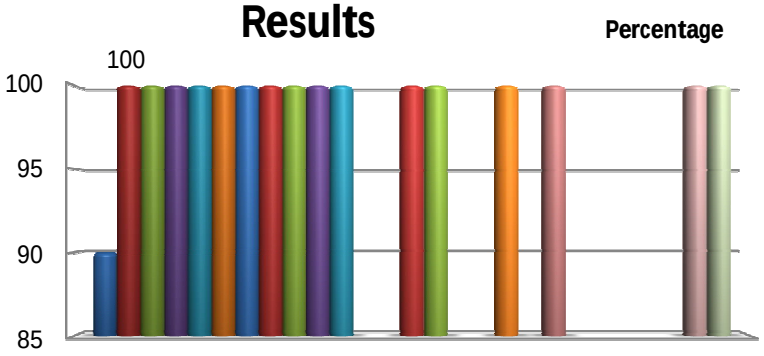
40 cases (100%) belongs to Marutha nilam.

CLINICAL PRESENTATION

RESULTS:

(i) Prognosis assessment of signs and symptoms:

Sl. No.	Signs and Symptoms	Present during admission (No. of case)	Improvement of signs & symptoms%
1.	Increased Temperature	40	90%
2.	Chills	3	100%
3.	Rashes	2	100%
4.	Sneezing	2	100%
5.	Running nose	12	100%
6.	Nasal block	1	100%
7.	Myalgia	5	100%
8.	Headache	7	100%
9.	Throat pain	3	100%
10.	Cough	4	100%
11.	Expectoration	13	100%
12.	Chest pain		
13.	Breathlessness		
14.	Nausea	1	100%
15.	Vomitting	2	100%
16.	Hemetemesis		
17.	Jaundice		
18.	Abdomen pain	2	100%
19.	Diarrhoea		
20.	Dysuria	2	100%
21.	Hematuria		
22.	Oliguria		
23.	Retro orbital pain		
24.	Photophobia		
25.	Neck pain		
26.	Joint pain	1	100%
27.	Ear ache	2	100%



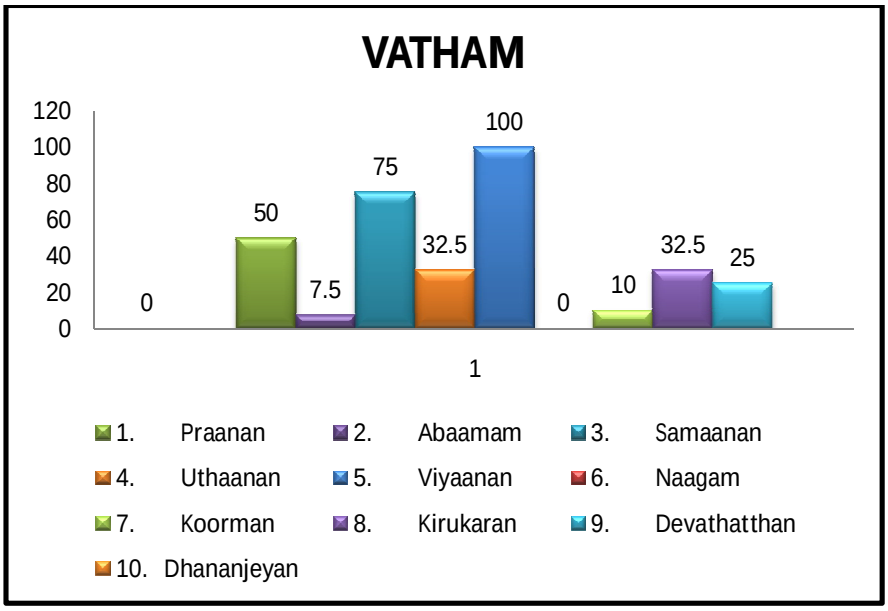
	1
1. Increased Temperature	90
2. Chills	100
3. Rashes	100
4. Sneezing	100
5. Running nose	100
6. Nasal block	100
7. Myalgia	100
8. Headache	100
9. Throat pain	100
10. Cough	100
11. Expectoration	100
12. Chest pain	
13. Breathlessness	
14. Nausea	100
15. Vomitting	100
16. Hemetemesis	
17. Jaundice	
18. Abdomen pain	100
19. Diarrhoea	
20. Dysuria	100
21. Hematuria	
22. Oliguria	
23. Retro orbital pain	
24. Photophobia	
25. Neck pain	
26. Joint pain	100
27. Ear ache	100

UYIR THATHUKKAL

i. Derangements of Vadham:

Sl. no.	Types of Vadham	No.of Cases (out of 40)	Percentage
1.	Praanan (gpuh z d)	20	50%
2.	Abaanan (mgh d d)	3	7.5%
3.	Samaanan (r kh d d)	30	75%
4.	Uthaanan (c jh d d)	13	32.5%
5.	Viyaanan (t pah d d)	40	100%
6.	Naagan (eh f d)		0%
7.	Koorman ($ Hk d)	4	10%
8.	Kirukaran (f pU f u d)	13	32.5%
9.	Devathatthan (Nj t j j j d)	10	25%
10.	Dhananjeyan (j d Qn r a d)		

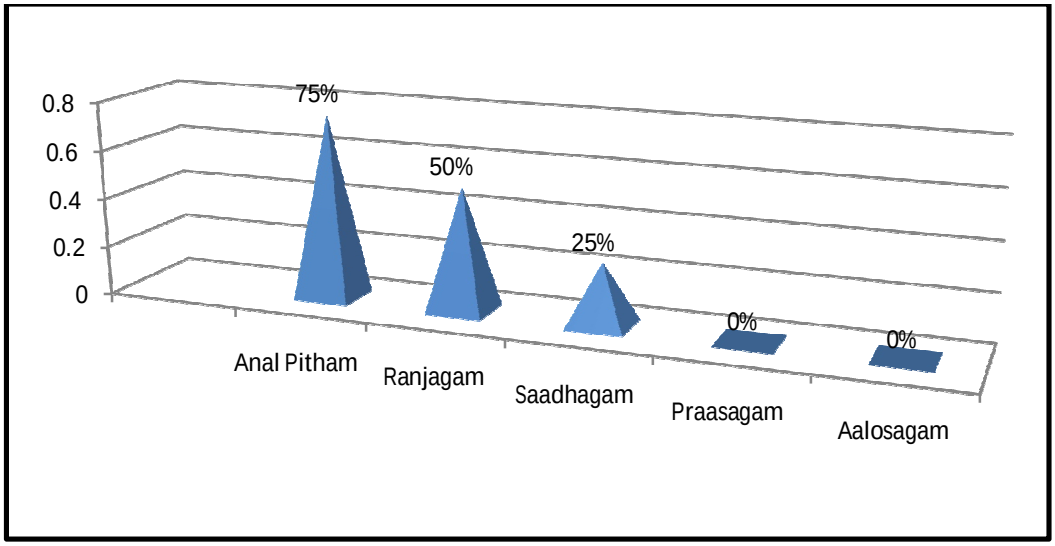
Due to the derangement of vadham the following symptoms occur. Praanan deranged in 50% of patients, it causes breathing difficulties and poor appetite. Abaanan deranged in 7.5% of patients. Samaanan deranged in 75% of patients, it cause poor appetite. Uthaanan deranged in 32.5% of patients, it causes gradual emaciation. Viyaanan deranged in 100% of patients, it causes decreased activity and increased temperature. 10% of patient causes by Koorman, Kirukaran deranged in 32.5% of patients, it causes cough, running nose and poor appetite. Devathatthan deranged in 25% of patients, it causes tiredness.


VATHAM
120
100
80
60
40
20
0
0
50
7.5
75
32.5
100
0
10
32.5
25
1
1. Praanan
2. Abaamam
3. Samaanan
4. Uthaanan
5. Viyaanan
6. Naagam
7. Koorman
8. Kirukaran
9. Devathatthan
10. Dhananjeyan

DERANGEMENTS OF PITHAM:

Sl. no.	Types of Pitham	No.of Cases (out of 40)	Percentage
1.	Anal Pitham (m d y g j j k)	30	75%
2.	Ranjagam (, uQ r f k)	20	50%
3.	Saadhagam (r h j f k)	10	25%
4.	Praasagam(g uh r f k)	0	0%
5.	Aalosagam(M N yh r f k)	0	0%

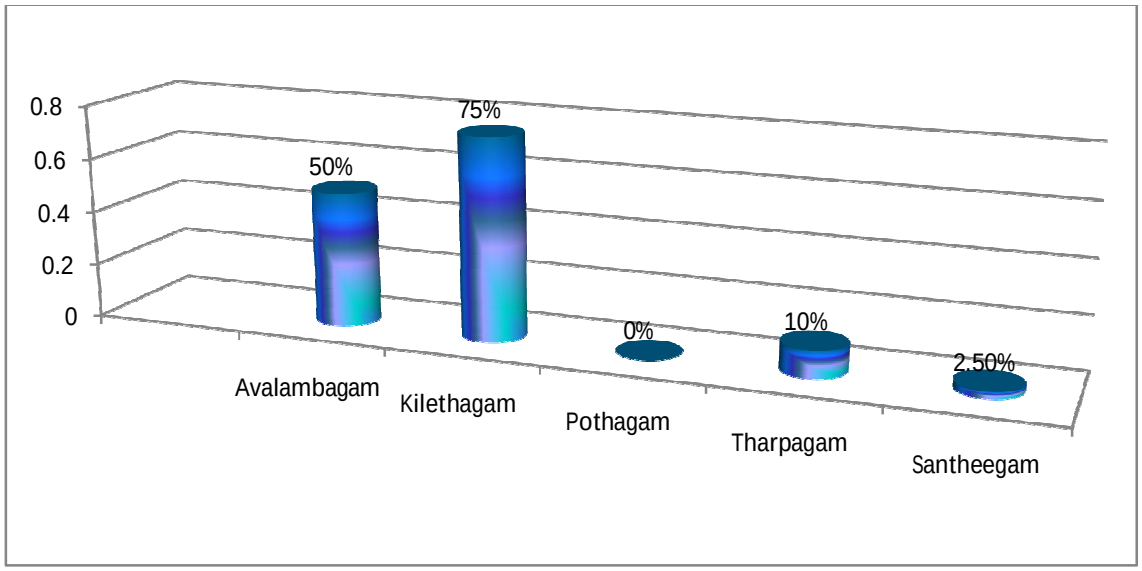
Due to the derangement of pitham the following symptoms occur. Anal pitham deranged in 75% of patients, it cause poor appetite. Ranjagam deranged in 50% of patients.Saadhagam deranged in 25% of patients



ii. Derangement of Kabam:

Sl. no.	Types of Kabam	No.of Cases (out of 40)	Percentage
1.	Avalambagam (m t y kg f k)	20	50%
2.	Kilethagam (f⁄Ny j f k)	30	75%
3.	Pothagam (Ngh j f k)	-	0%
4.	Tharpagam (j wg f k)	4	10%
5.	Santhegam (r e j⁄ f k)	1	2.5%

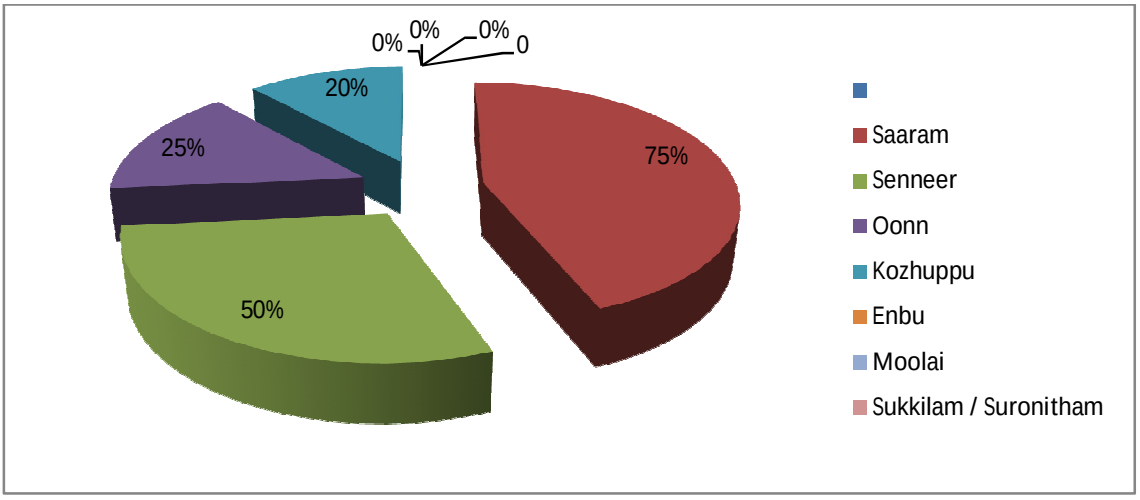
Due to the derangement of kabam the following symptoms occur. Avalambagam deranged in 50% of patients, it causes cough. Kilethagam deranged in 75% of patients, it causes poor appetite. Tharpagam deranged in 10% of patients, it causes redness of eyes. Santhegam deranged in 2.5% of patients, it causes joint pain.



UDAR THATHUKKAL

Sl. no.	Udar Thathukkal	No.of Cases (out of 40)	Percentage
1.	Saaram (rhuk)	30	75%
2.	Senneer (nreeH)	20	50%
3.	Oonn(C d)	10	25%
4.	Kozhuppu(nfhOgG)	8	20%
5.	Enbu(vdG)	0	0%
6.	Moolai(%is)	0	0%
7.	Sukkilam / Suronitham(Rfpyk / RNuhzpjk)	0	0%

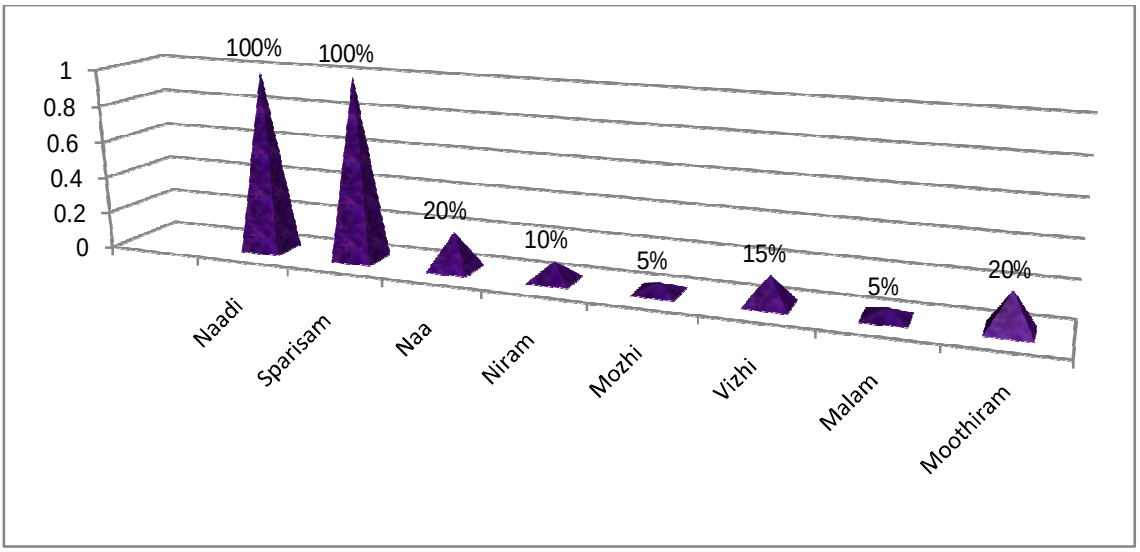
In ezhu udar kattugal saaram affected in 75% of patients. Senneer affected in 50% of patients. Oonn affected in 25% of patients due to Kozhuppu affected in 20% of patients.



ENN VAGAI THERVUGAL

Sl. no.	Enn vagai thervugal	No.of Cases (out of 40)	Percentage
1.	Naadi (ehb)	40	100%
2.	Sparisam ( ] ghpr k)	40	100%
3.	Naa (eh)	8	20%
4.	Niram (epwk)	4	10%
5.	Mozhi (n kho p)	2	5%
6.	Vizhi (t po p)	6	15%
7.	Malam (k y k)	2	5%
8.	Moothiram (% j j puk)	4	20%

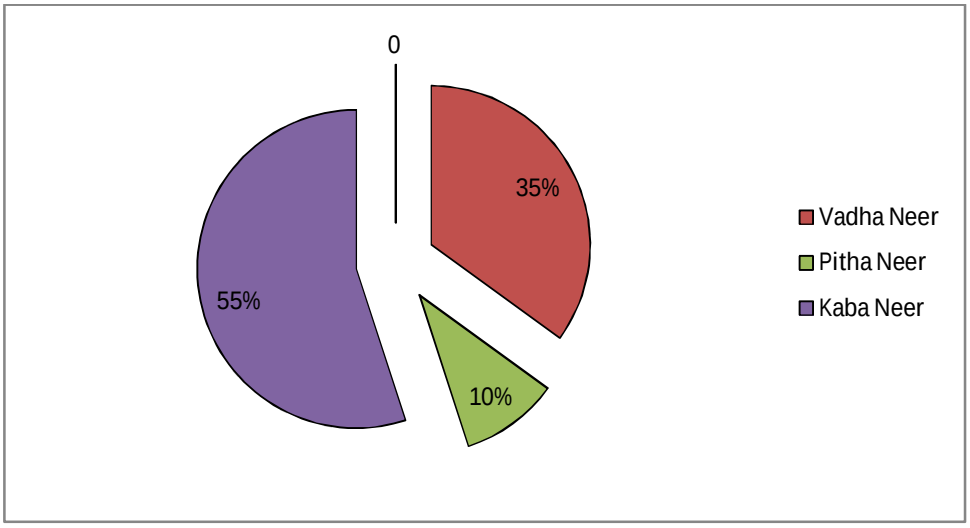
In ennvagai thervugal, Naadi affected in all patients 100% due to the derangement of thrithodam. Fever and sweating was observed by sparisam, it deranged, in 100% of patients. Coated tongue and dryness of the tongue observed by naa, it affected in 20% of patients. Red colour, pale colour conjunctiva, nail buds are observed by niram, it altered in 10% of patients. Hoarseness of voice observed by mozhi, it affected in 5% of patients. Pallor of lower eyelids observed by vizhi, it affected in 15% of patients. Diarrhoea observed by malam, it altered in 5% of patients. Decreased amount of urine observed by moothiram, it altered in 20% of patients.



NEI KURI

Sl. No.	Neikuri Reference	Characters of Urine	No. of cases (out of 20)	Percentage
1.	Vadha Neer	Speads like Snake	6	35%
2.	Pitha Neer	Spreads like Ring	4	10%
3.	Kaba Neer	Spreads like Pearl	10	55%

In urine examination of all 20 patients spreads like pearl in 10 patients (55%) spreads like snake in 6 patients (35%) spreads like ring in 4 patients (10%).



iii. RADIOLOGICAL REPORT

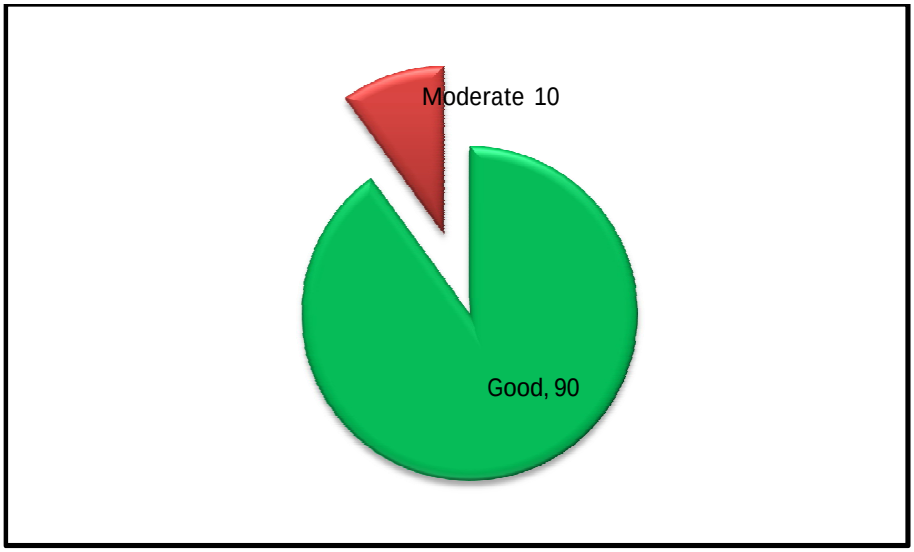
Sl. No.	Nature of Lesion	No. of cases	Percentage
1.	Normal study **X – ray chest pa view**	20	100%
2.	Ultra Sonogram Abdomen and pelvis (Normal)	2	10%

ii. Remarks:

a. Among 20 I.P. Cases the results were observed as follows.

Sl. No.	Remarks	No. of cases (out of 20)	Percentage
1.	Good	18	90%
2.	Moderate	2	10%

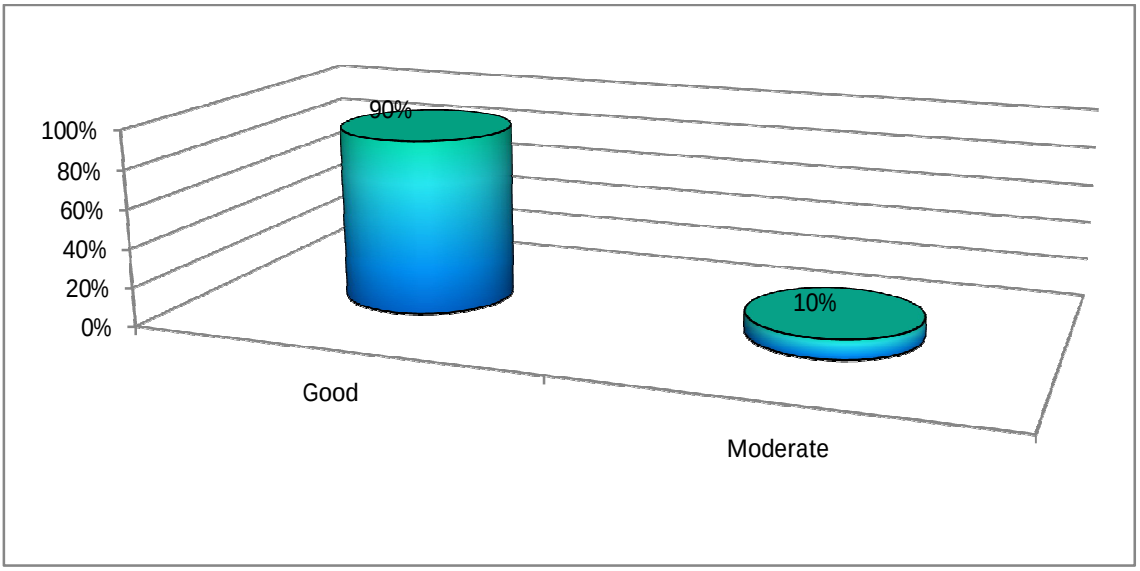
90% cases showed significant improvement. Because their signs and symptoms were reduced markedly. They were come under good response group. About 10% cases showed moderate improvement.



b. Among 20 OP cases the results were observed as follows:

Sl. No.	Remarks	No. of cases (out of 20)	Percentage
1.	Good	18	90%
2.	Moderate	2	10%

90% cases showed significant improvement. Because their signs and symptoms were reduced markedly. They were come under good response group. About 10% cases showed moderate improvement.



Out Patient Record

Sl. No.	OP No.	Name	Age / Sex	No of days treated	Remarks
1.	145	Harshavarthan	3MC	6 Days	Good
2.	971	Isakkiraja	12MC	3 Days	Good
3.	8875	Arvinthan	7FC	6 Days	Fair
4.	2893	Kumar	11MC	4 Days	Good
5.	3671	Pavithra	6MC	3 Days	Good
6.	4764	Sujitha	3FC	7 Days	Good
7.	5161	Ajay	3 ½ MC	5 Days	Good
8.	8364	Varshini	1 ½ FC	4 Days	Fair
9.	8408	Barath kumar	7MC	3 Days	Good
10.	9540	Stalin	5MC	7 Days	Good
11.	10256	Heachandran	8MC	5 Days	Good
12.	10414	Deepak	2 ½ MC	4 Days	Good
13.	11388	Sugumar	2 ½ MC	7 Days	Good
14.	28680	Siva	1 ¼ MC	3 Days	Good
15.	12934	Joswa	5MC	8 Days	Good
16.	1861	Srinithi	7FC	5 Days	Good
17.	17787	Ajay Aravind	3MC	5 Days	Good
18.	20454	Dalphin	8MC	4 Days	Good
19.	23443	Karthik Kumar	4MC	6 Days	Good
20.	24072	Gowtham	3 ¼ MC	3 Days	Good

Case reports of twenty cases for the disease – Suram.

Post graduate department of Kuzhanthai Maruthuvam.

Sl.No.	IP No.	Name of the Patient	Age / Sex	Date of Admission	Signs and Symptoms	Date of Discharge	Duration of disease	Total no of days treated		Result
								IP	OP	
1.	55	Shahul hameed	5MC	11.01.16	Increased Temperature, headache, Cough with expectoration	19.01.16	7 days	9	3	Good
2.	180	Petchiammal	7FC	25.01.16	Increased Temperature, pain in both knee joint, All small joint, cold, throat pain	03.02.16	15 days	10	5	Good
3.	212	Tharani	5MC	28.01.16	Increased temperature., Running nose, sneezing, abscess in right gluteal region	03.02.16	3 days	7	3	Moderate
4.	401	Yogamuthu	8MC	05.03.16	Increased Temperature. Cough with expectoration, headache	08.03.16	1 days	4	3	Good
5.	627	Charupriya	2FC	08.03.16	Increased Temperature Nasal discharge	11.03.16	2days	4	3	Good
6.	769	Harish	2MC	22.03.16	Increased Temperature cough, burning micturition	28.03.16	4 days	7	3	Good
7.	912	Ashwin	4MC	03.04.16	Increased Temperature. throatpain, cervical lymphnode enlargement	09.04.16	2 days	7	3	Good
8.	1154	Harini	3FC	02.06.16	Increased Temperature, cough with	04.06.16	3 days	3	7	Good

					expectoration					
9.	1320	Ananthi	5FC	19.05.16	Increased Temperature Nasal discharge, throat pain	25.05.16	2 days	7	2	Good
10.	1330	Ananthasingam	6MC	20.05.16	Increased Temperature Suprapublic pain, burning micturition	25.05.16	3 days	6	2	Fair
11.	1353	Karthick	4MC	23.05.16	Increased Temperature Cough with expectoration, mild wheezing	29.05.16	2 days	7	1	Good
12.	1356	Sathvika	5FC	23.05.16	Increased Temperature ,Nasal discharge	27.05.16	1days	5	2	Good
13.	1387	Anu	10FC	26.05.16	Increased Temperature ,headache, vomiting, cough with expectoration	31.05.16	1 days	6	1	Good
14.	1395	Hari Krishna	4FC	31.06.16	Increased Temperature cough with expectoration	06.06.16	2 days	4	3	Good
15.	1467	Kalai	12MC	28.05.16	Increased Temperature Body pain, Tiredness	31.05.16	1 days	4	3	Good
16.	1520	Yaasmeen	6FC	10.06.15	Increased Temperature mild cough, Nasal discharge	14.06.16	2 days	5	2	Good
17.	1544	Vidhubala	10FC	14.06.16	Increased Temperature Tiredness, cough with expectoration	17.06.16	1 days	4	3	Good

18.	1550	Gayathri	6FC	14.06.16	Increased Temperature Nasal discharge earache	17.06.16	2 days	4	3	Good
19.	1551	Midhun	7MC	14.06.16	Increased Temperature Nasal discharge sore throat	17.06.16	1 days	4	3	Good
20.	1560	Vaishali	5FC	15.06.16	Increased Temperature mild cough, head ache	20.06.16	2days	6	2	Good

URINE, MOTION, WIDTAL TEST

Sl. No.	IP No.	Urine Analysis						Motion Analysis				Widal test
		Before Treatment			After Treatment			Before Treatment		After Treatment		
		Alb	Sug	Dep / HPF	Alb	Sug	Dep / HPF	Ova Cyst	Occult Blood	Ova Cyst	Occult Blood	
1.	55	–	–	–	–	–	–	–	–	–	–	–
2.	180	–	–	–	–	–	–	–	–	–	–	–
3.	212	–	–	–	–	–	–	–	–	–	–	–
4.	401	–	–	–	–	–	–	–	–	–	–	–
5.	627	–	–	–	–	–	–	–	–	–	–	–
6.	769	–	–	3 – 5 PC	–	–	–	–	–	–	–	–
7.	912	–	–	–	–	–	–	–	–	–	–	–
8.	1154	–	–	–	–	–	–	–	–	–	–	–
9.	1320	–	–	–	–	–	–	–	–	–	–	–
10.	1330	–	–	2 – 3 PC	–	–	–	–	–	–	–	–
11.	1353	–	–	2 – 3 EC	–	–	–	–	–	–	–	–
12.	1356	–	–	–	–	–	–	–	–	–	–	–
13.	1387	–	–	–	–	–	–	–	–	–	–	–
14.	1395	–	–	–	–	–	–	–	–	–	–	–
15.	1467	–	–	–	–	–	–	–	–	–	–	–
16.	1520	–	–	–	–	–	–	–	–	–	–	–
17.	1544	–	–	–	–	–	–	–	–	–	–	–
18.	1550	–	–	–	–	–	–	–	–	–	–	–
19.	1551	–	–	–	–	–	–	–	–	–	–	–
20.	1560	–	–	–	–	–	–	–	–	–	–	–

PC – Pus cells HPF – High Power Field EC – Epithelial Cells

l. no.	IP No.	Name of the Patient	Age / Sex	WBC total count / cu.mm		Haematological Investigation											
						WBC differential count						ESR – mm/hr		Hb – gm%		ASO Titre	
						BT			AT								
				BT	AT	P%	L%	E%	P%	L%	E%	BT	AT	BT	AT	BT	AT
1.	55	Shahul hameed	5MC	8700	8600	40	56	4	50	48	2	16	10	9.7	9.5	-	-
2.	180	Petchiammal	7FC	5700	8100	54	32	14	59	31	10	95	22	9.9	10.4	468.9	200
3.	212	Tharani	5MC	8000	8600	62	36	2	64	36	0	16	9	5.5	6.0	-	-
4.	401	Yogamuthu	8MC	6000	6100	60	37	3	62	36	2	40	20	10.5	11	-	-
5.	627	Charupriya	2FC	9600	9700	49	46	5	59	36	5	24	10	10.5	10.8	-	-
6.	769	Harish	2MC	9500	9450	54	42	4	57	39	4	8	8	9.2	9.2	-	-
7.	912	Ashwin	4MC	6700	6900	65	31	4	65	33	2	25	10	9.6	9.6	-	-
8.	1154	Harini	3FC	9400	9500	55	31	14	59	33	8	4	4	9.5	9.2	-	-
9.	1320	Ananthi	5FC	9500	9500	54	42	4	56	43	1	5	4	9	9.8	-	-
10.	1330	Ananthasingam	6MC	7800	7700	55	32	13	59	34	7	50	30	10	10.3	-	-
11.	1353	Karthick	4MC	8500	8700	57	39	4	60	39	1	30	20	10.8	11.2	-	-
12.	1356	Sathvika	5FC	8000	8100	53	35	12	59	39	2	10	8	12	12.1	-	-
13.	1387	Anu	10FC	9100	9000	60	31	9	63	30	7	18	6	11	11	-	-
14.	1395	Hari Krishna	12MC	8200	8200	45	37	18	52	36	12	22	10	9.8	10	-	-
15.	1467	Kalai	4FC	8300	8100	55	42	3	59	38	3	12	8	10.5	10.8	-	-
16.	1520	Yaasmeen	6FC	7000	7000	62	28	10	70	24	6	32	12	9.9	10.2	-	-
17.	1544	Vidhubala	10FC	9300	9500	54	38	8	59	34	7	35	30	10.5	10.5	-	-
18.	1550	Gayathri	6FC	8950	9100	52	46	2	58	41	1	9	8	11	11	-	-
19.	1551	Midhun	7MC	9500	9000	46	40	14	52	40	8	10	10	9.5	9.5	-	-
20.	1560	Vaishali	5FC	9200	9200	62	30	8	61	35	4	40	20	9	10.1	-	-

BT – Before Treatment, AT – After Treatment, P – Polymorphs, L-Lymphocytes, E-Esinophils, ESR-Erythrocyte Sedimentation Rate , Hb-Hemoglobin, ASO-Anti –Streptolysin O-Titre

Discussion

Around 4448 kind of diseases explained in siddha system, in that “suram” is also kind of a disease. The disease “suram” is noted by YUGI MUNI as “king of all diseases”.

Although in siddha pediatric books “suram” is classified in various types, here the author selected it as in one heading. Suram is a clinical entity described by siddhars and it has clinical features such as increased temperature,headache, cough,loss of appetite,nasal discharge,etc… The clinical features of suram have been furnished by some of the siddha literatures

Like **Balavagadam**, **pillaippinimaruthuvam** etc.

For the study on suram the author selected 20 OP and 20 IP patients and were treated in the PG kuzhanthai maruthuvam department, Government siddha medical college, palayamkottai.as in patients a case record based on siddha and modern aspect was prepared and maintained for each patient.

For the diagnostic purpose the parameter used in siddha aspect poriyalarithal, pulanalarithal, vinaathal, uyirthathukkal,udalthaathukkal and neikkuri. The modern parameters used were criteria for the suram and lab investigations.

I. Biochemical analysis

The result of biochemical analysis of “ vettumarankuligai” shows that it consists of calcium,sulphate,chloride,ferric iron,ferrous iron,saturation compound and amino acid.

II. Pharmacological studies

The pharmacological studies shows that the trial drug “vettumarankuligai” possess significant anti-pyretic and anti-inflammatory action.

III. Acute toxicity study

The acute toxicity study shows that the trial drug has not produce any toxic effect. The acute toxic study in duly attached with the experiment.

IV. Anti-microbial study

The anti- microbial study of the trial drug shows sensitivity to staphylococcusaureus and Escherichiacoli bacteria.

V. Clinical trial

1. Age distribution

Among the 40 cases, 10 cases in the age group between 1-3 yrs., 17 cases in 3-6 yrs.,and 13 cases in 6-12 yrs.

2. Sex distribution

Out of the 40 patients studied 25 cases were male children (62.5%) and 15 cases (37.5%) were female children.

3. Religion distribution

Among the 40 cases 85% were Hindu, 10 % were Christian and 5% were Muslim.

4. Socio-economic status

Out of the 40 cases 65% were poor and 25% were middle class and 10% were rich.

5. Dietary habits

90% cases have mixed diet.

10% of cases were vegetarian diet.

6. **Paruvakaalanga**l

Among the 40 cases selected 37.5% seemed to affected in Munpani kaalam,30% cases were affected in Pinpani kaalam,32.5% cases were affected in Elavenilkaalam.

7. **Thinai reference**

Total 40 cases were belong to maruthanilam. The selected cases were from Tirunelveli Dt.Tirunelveli is a marutham type of land. According to our siddha text, the people who are living in marutham typeof land have not affected by disease, but today's habitual changes cause diseases.

6. Uyirthaathukkal

a) Derangements of vatham

Among the ten types of vatham, other than Nagan and Thananjayan all are affected in suram.

Pranan deranged in 50% of patients, it causes breathing difficulties and poor appetite. Abanan deranged in 7.5% patients it causes constipation and reduced frequency of urine output.

In 75% of case Samanan deranged along with other kuttrams it produce poor appetite and indigestion. Uthanan deranged in 32.5% of cases,it causes gradual emaciation and hoarseness of voice.

Viyanan deranged in 100% of cases because of its spreading nature,it spreads heat from stomach to all over the body and increased body temperature.

In 10% patient koorman and in 32.5% patient kirukaran were affected,they both causes cough, running nose and poor appetite.

Devathathan deranged in 25% of patients it is responsible for laziness, which cause sleepiness.

b) Derangement of pitham

Derangement of pitham in suram causes poor appetite, disability to do daily activities.

In 75% of patients anal pitham deranged which is accountable for digestion.it derangement causes poor appetite. Ranjagam deranged in 50% of cases.Saathagam deranged in 25% cases lag of concentration and so produce fatigue.

c) Derangement of kabam

Avalambagam deranged in 50% cases. Avalambagam is located in lungs. In unbalanced stage it may cause breathing difficulties and cough.

Kilathegam deranged in 75% of patients.It causes indigestion and poor appetite.

Tharpagam deranged in 10% cases ,It causes burning sensation in eyes and redness of eyes.

Santhegam deranged in 2.5% cases.Santhegam has given protection to the joints. When it is going in trouble it produce joints pain.

7. Udalthaathukkal

In ezhuudarthaathukkalSaram affected in 75% patients .The derangement of saaram and senneer produce general disability and easy fatiguability.Senneer affected in 50% patients ,due to nutritional impairment. In 25% cases oon were affected.kozhuppu affected in 20% of cases due to gradual emaciation.

8. Envagaitheervugal

In envagaithervugal fever and sweating was observed by sparism,it deranged in 100% patients.coated tongue and dryness of the tongue observed by naa, it affected in 20% of cases. Red colour pale colour conjunctiva and nail buds are observed by niram,it affected in 10% cases.Hoarseness of voice observed in 5% of patients.vizhi affected in 15% and malam affected in 5% cases.Naadi was observed in all 40 cases.Siruneer affected in 20% cases.

9**) Neikkuri**

In urine examination of all 20 patients 6 cases spreads like snake, in 4 cases spread like ring and in 10 cases spread like pearl.

All the drugs were put to therapeutic and only after purification process laid down for them individually no toxic or side effects were clinical and reportedly observed in any case during the course of treatment.

Treat the suram and its clinical features with the trial drug “vettumarankuligai”internally had properties of drugs possess kaarppusuvai and ushnaveeriyam. It acts on the increased kabam in the stomach and relieves” aamam”, the toxin. And it preserves” agni “in stomach . By this way the drug removes the root cause of the disease suram.

The author selected the drugs had anti -bacterial, anti-pyretic and anti-inflammatory agents proved by biochemical analysis and pharmacological studies.so the trial drug is effective and suitable for curing suram and its symptoms .All the drugs are easily available. In this study the herbal drugs also have the satisfactory prognosis on suram and its symptoms have been proved.

From all the above observation and results it is clear that out of 40 cases 90% showed significant improvement,and 10 % cases showed moderate improvement.Therfore the selected drug “vettumarankuligai” produced good effect in reduced the signs and symptoms of suram.

Summary

The study of the ‘suram’ is done to find out a complete relief to those affected , with a herbo-mineral combination,vettumarankuligai.

Various literature evidence relavant to suram were collected from both siddha system as well as modern system of medicine.

40 patients from both sexes of different age groups, were selected and diagnosis was made on both the siddha and modern methodology.The patients were treated with “vettumarankuligai” iternally in the In patients ward of PG Kuzhanthai maruthuvam department and also in out patient department.Further follow up of the cases were also considered for the prognosis of the patient was followed and the proforma was prepared accordingly.

The efficacies of the trial drug “ **vettumarankuligai”** was studied and observed during the study.These analysis ensure the efficacies of the drug were proved clinically.

Conclusion

- The author has been selected dissertation topic were well analyzed on the siddha and modern parameters.
- The points were thoroughly examined with clinical and biochemical analysis.
- All the cases were treated with”vettumarankuligai”.
- Clinical results were found to be satisfactory.
- The medicine was free from adverse effects, clinically.
- So it is concluded suram and its symptoms could be well treated and observed by a good medicine”vettumarankuligai“.It briefs the suram in various origin along with diet restriction stated in siddha literature.

The Tamil Nadu Dr.M.G.R. Medical University

#69, Anna salai, Guindy, Chennai-600 032.

This certificate is awarded to

Dr./~~Mr./Ms.~~ K. THIRUMAGAL

for participating as ~~Resource Person~~ / Delegate in the Fifteenth Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post Graduates & Researchers

Organised by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University from 23.06.2014 to 27.06.2014.

Dr. N. KABILAN M.D. (Siddha)
Reader, Dept. of Siddha

Dr. JHANSI CHARLES, M.D.
Registrar

Prof. Dr. D. SHANTHARAM, M.D., D.Diab.,
Vice-Chancellor

GOVT. SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

SCREENING COMMITTEE

Candidate Reg. No: 221319003

Department: KUZHANTHAI MARUTHUVAM [BRANCH-IV]

This is to certify that the dissertation topic An open clinical study to evaluate the efficacy of Siddha Suttrils formulation VETTU MAGAN KULIGAI for the treatment of 'SURAM' has been approved by the screening committee.

Branch	Department	Name	Signature
1	Pothu Maruthuvam	Dr.S.Aathi Narayanan MD(S).,	
2	Gunapadam	Dr.M.Ravi Chandran MD(S).,	
3	Sirappu Maruthuvam	Dr.S.Kaniraja MD(S).,	
4	Kuzhanthai Maruthuvam	Dr.D.K.Soundararajan MD(S).,	
5	Noi Nadal	Dr.S.K.Sasi MD(S).,	
6	Naju Nool Maruthuvam	Dr.M.Thiruthani MD(S).,	

Remarks:

INSTITUTIONAL ETHICAL COMMITTEE,
GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI,
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F.No.GSMC/ 5676/P&D/Res/IEC/2014 Date:16.07.2015

CERTIFICATE OF APPROVAL

Address of Ethical Committee	Government Siddha Medical College, Palayamkottai,Tirunelveli, Tamilnadu, India.Pincode- 627002.
Principal Investigator	Dr. K. THIRUMAGAL.,MD(S)-II year, Department of Kuzhanthai Maruthuvam, Reg.No:321314009
Guide	Dr.D.K.SOUNDARARAJAN,MD(S), Head of the Department, Dr.K.SHYAMALA,MD(S), Assistant Lecturer, Department of Kuzhanthai Maruthuvam, Govt. Siddha Medical College and Hospital, Palayamkottai. -627002.
Dissertation Topic	An observational clinical study of **"SURAM"** with the efficacy of **VETTU MARAN KULIGAI**
Documents Filed	1)Protocol 2) Data Collection Forms 3) Patient Information Sheet 4) Consent form 5)SAE (Pharmacovigilance)
Clinical / Non Clinical Trial Protocol	Clinical Trial Protocol – Yes
Informed Consent Document	Yes
Any Other Document	Case Sheet, Investigation Documents
Date of IEC Approval & its Number	GSMC/II-IEC/2015-Br-IV/09/16.07.2015

We approve the trial to be conducted in its presented form.

The Institutional Ethical Committee expects to be informed about the process report to be submitted to the IEC at least annually of the study, any SAE occurring in the course of the study, any changes in the protocol and submission of final report.

Chairman 16/7/2015 Member Secretary

(Prof. Dr. M.Loganathan) (Prof.Dr.S.Soundararajan)

(For IAEC / CPCSEA usage)

Proposal number	: K.THIRUMAGAL/3213140/09 MD(S)/IAEC/KMCP/233/2015-2016
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Expiry date	: 31.03.2016
Name of IAEC / CPCSEA chairperson	: N.CHIDAMBARANATHAN

Date: 15.12.2015

Signature

PROFESSOR
INSTITUTIONAL ANIMAL ETHICS COMMITTEE
K.M. COLLEGE OF PHARMACY
MADURAI-625 107.

Signature

CHAIRMAN
INSTITUTIONAL ANIMAL ETHICAL COMMITTEE
K. M. COLLEGE OF PHARMACY
MADURAI-625 107.

KMCH COLLEGE OF PHARMACY – COIMBATORE

IAEC - CERTIFICATE

This is to certificate that the project title AN OPEN CLINICAL STUDY TO EVALUATE THE SAFETY AND EFFICACY OF SIDDHA SASTHRIC FORMULATION VETTUMARAM KULIGAI FOR THE TREATMENT OF SORAM

has been approved by the IAEC/ KMCRET/MD(S)/28/2016-2017

Name of the Chairman / Member Secretary IAEC:

Signature with Date

PRINCIPAL
KMCH College of Pharmacy,
Koval Estate, Kalapatti Road,
Coimbatore-641 048
Tamil Nadu, INDIA

Chairman / Member Secretary IAEC

Name of the CPCSEA Nominee

CPCSEA Nominee

V VINAYAK KULKARNI

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by office).

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Botanical Authenticity

Certified the following plant drugs used in Siddha formulation **Vettu Maran kulikai** (Internal) for the management of **Suram (Fever)** taken up for Post Graduation Dissertation Studies by **Dr.K.Thirumagal (Reg No.321314009)** PG Dept. of Kuzhanthai Maruthuvam are correctly identified and authenticated through Visual inspection / Organoleptic Characters / Experience, Education & Training Morphology Microscopical and Taxonomical methods.

S.No.	Name	Botanical Name	Parts used	Quantity
1.	Ven Milagu	Piper nigrum	Fruit	0.125 g
2.	Thippili	Piper longum	Fruit	0.125 g
3.	Omam	Trachyspermum ammi	Fruit	0.125 g
4.	Nabi	Aconitum ferox	Root	0.125 g
5.	Inji	Zingiber officinale	Rhizome	2.000 g

Station: Palayamkottai

Date: 24.11.2015

Authorized Signature

Dr. S. SUTHA, M.Sc.,M.Ed.,Ph.D.,
Associate Professor
Dept. of Medicinal Botany
Govt. Siddha Medical College
Palayamkottai, Tirunelveli - 2.

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Gunapadam Authentiricity

Certified the following plant drugs used in Siddha formulation **Vettu Maran kulligai** (Internal) for the management of **Suram (Fever)** taken up for Post Graduation Dissertation Studies by **Dr.K.Thirumagal (Reg No.321314009)** PG Dept. of Kuzhanthai Maruthuvam are correctly identified and authenticated through Visual inspection / Organoleptic Characters / Experience, Education & Training Morphology and Taxonomical methods.

S.No.	Name	Chemical Name	Quantity
1.	Lingam	Cinnabar	0.125 g
2.	Vengaram	Borax	0.125 g

Station: Palayamkottai

Date:

Authorized Signature

BIO-CHEMICAL ANALYSIS OF VETTUMARAN KULIGAI

Preparation of the extract:

100 mg of the drug is weighed accurately and placed into a clean beaker and added a few drops of concentrated Hcl and evaporated it well. After evaporation cooled the container and added a few drops of concentrated nitric acid evaporated it well. After cooling the content add 20ml of distilled water and dissolved it well. Then it is transferred to 100 ml volumetric flask and made up to 100 ml with distilled water mix well. Filter it, then it is taken for analysis.

QUALITATIVE ANALYSIS

S.NO.	EXPERIMENT	OBSERVATION	INFERENCE
1.	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	A white precipitate is formed	Indicates the presence of calcium
2.	**TEST FOR SULPHATE** 2ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	Indicates the presence of sulphate
3.	**TEST FOR CHLORIDE** The extract is treated with silver nitrate solution	A white precipitate is formed	Indicates the presence of chloride
4.	**TEST FOR CARBONATE** The substance is treated with concentrated Hcl.	No brisk effervescences is formed	Absence of carbonate
5.	**TEST FOR STARCH** The extract is added with weak iodine solution	No blue colour is formed	Absence of starch

6.	**TEST FOR FERRIC IRON** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	Blue colour is formed	Indicates the presence of ferric iron
7.	**TEST FOR FERROUS IRON** The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution	Blood red colour is formed	Indicates the presence of ferrous iron
8.	**TEST FOR PHOSPHATE** The extract is treated with Ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
9.	**TEST FOR ALBUMIN** The extract is treated with Esbach's reagent	No yellow precipitate is formed	Absence of albumin
10.	**TEST FOR TANNIC ACID** The extract is treated with ferric chloride.	No Blue black precipitate is formed	Absence of tannic acid
11.	**TEST FOR UNSATURATION** Potassium permanganate solution is added to the extract	It gets decolourised	Indicates the presence of an saturation compound
12.	**TEST FOR THE REDUCING SUGAR** 5ml of Benedict's	No colour change occurs	Absence of reducing sugar

	qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes.		
13.	**TEST FOR AMINO ACID** One or two drops of the extract is placed on a filter paper and dried well. After drying, 1% Ninhydrin is sprayed over the same and dried it well.	Violet colour is formed	Indicates the presence of amino acid
14.	**TEST FOR ZINC** The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of zinc

Inference:

The above analysis indicates presence of calcium, sulphate, chloride, ferric iron, ferrous iron, saturation compound and amino acid.

ACUTE TOXICITY STUDY IN FEMALE WISTER RATS TO EVALUATE TOXICITY PROFILE OF *VETTUMARAN KULIGAI*

OBJECTIVES

The aim of this Study is to evaluate the toxicity of the test substance ***VETTUMARAN KULIGAI***, when administered orally to Female Wister Rats with different doses, so as to provide a rational base for the evaluation of the toxicological risk to man and indicate potential target organs.

Guidelines followed:

(a) OECD Guidelines No. 423,

Study Design and Controls:

1) Female Wister Rats in controlled age and body weight were selected.

2) ***VETTUMARAN KULIGAI*** was administered at **5 mg/kg, 50 mg/kg, 300 mg/kg, 1000 mg/kg, and 2000 mg/kg** body weight as (Water) as suspension along with blank.

3) The results were recorded on day 0, with single oral dosing period of 14 days.

EXPERIMENTAL PROCEDURE

1. ANIMALS

1.1.Supply

A total of 15 Female Wister Rats with an approximate age of 6 weeks and purchased from M/s.Venkateshwara Enterprises Pvt. Ltd, Bangalore. On their arrival a sample of animals was chosen at random and weighed to ensure compliance with the age requested. The mean weights of Female Wister Rats were 100-150 g respectively. The animals were housed in metabolic cages (55 x 32.7 x 19 cm), with sawdust litter, in such a way that each cage contained a maximum of 3 animals of the same sex.

All animals underwent a period of 20 days of observation and acclimatization between the date of arrival and the start of treatment. During the course of this period, the animals were inspected by a veterinary surgeon to ensure that they fulfilled the health requirements necessary for initiation of the Study.

1.3. Housing

The Female Wister Rats were housed in metabolic cages (55 x 32.7 x 19 cm), placed on racks. From the week before initiation of the treatment, each cage contained a maximum of 6 mice of the same sex and treatment group.

Each cage was identified by a card, color coded according to the dose level. This card stated the cage number, number and sex of the animals it contained, Study number, test substance code, administration route, dose level and Study Director's name, date of the arrival of the animals and initiation of treatment.

The temperature and relative humidity were continuously monitored. Lighting was controlled to supply 12 hours of light (7:00 to 19:00 hours) and 12 hours of dark for each 24-hour period.

The cages corresponding to each experimental group were distributed on racks in such a manner that external factors, such as environmental conditions, were balanced as far as possible.

2. DIET

All the rats had free access to a pelleted rat diet. The diet was analyzed by the manufacturer to check its composition and to detect possible contaminants.

2.1. Water

The water was offered ad libitum in bottles.

3. ADMINISTRATION ROUTE AND PROCEDURE

The test substance was administered orally. The Female Wister Rats belonging to the control group were treated with the vehicle (Water) at the same administration volume as the rest of the treatment groups.

3.1 Numbering and Identification

The animals were marked on body with picric acid solution prepared in water. The marking within the cage was as below.

Table-1 Numbering and Identification

Group No	Animal Marking
1	Head
2	Body
3	Tail

The group no., cage no., sex of the animal and animal no. were identified as indicated below using cage label and body marking on the animals

Table-2 Numbering and Identification

Cage No	Group No	Animal Marking	Sex
1	I	H,B,T	Female
2	II	H,B,T	Female
3	III	H,B,T	Female
4	IV	H,B,T	Female
5	V	H,B,T	Female

3.2 Doses

The doses for the study were selected based on literature search and range finding study. Following the period of fasting, the animals were weighed and then drug was administered orally as single dose using a needle fitted onto a disposable syringe of approximate size at the following different doses.

Table-3 Doses

GROUP	DOSE
GROUP	DOSE
Group-I	5 mg/kg
Group-II	50 mg/kg
Group-III	300 mg/kg
Group-IV	1000 mg/kg
Group-V	2000 mg/kg

The test item was administered as single dose. After single dose administration period, all animals were observed for day 14.

Dose Preparation

VETTUMARAN KULIGAI was added in distilled water and completely dissolved to form oral for administration. The dose was prepared of a required concentration before dosing by dissolving, in distilled water. It was mixed well. The preparation for different doses was vary in concentrations to allow a constant dosage volume.

3.3 Administration

The test item was administered orally to each Female Wister rats as single dose using a needle fitted onto a disposable syringe of appropriate size at the following different doses. The concentration was adjusted according to its body weight. The volume was not exceeding 10 ml/kg bodyweight. Variability in test volume was minimized by adjusting the concentration to ensure a constant volume at all dose levels.

3.4 Observation period

All animals were observed for any abnormal clinical signs and behavioral changes. The appearance, change and disappearance of these clinical signs, if any, were recorded for approximately 1.0, 3.0 and 4.0 hours post-dose on day of dosing and once daily thereafter for14 days. Animals in pain or showing severe signs of distress were humanely killed. The cageside observation was included changes in skin, fur, eyes and mucous membranes, occurrence of secretions and excretions. Autonomic activity like lacrimation, piloerection, pupil size and unusual respiratory pattern, changes in gait, posture, response to handling, presence of clonic or tonic movements, stereotypes like excessive grooming and repetitive circling or bizarre behavior like self-mutilation, walking backwards etc were observed. At the 14th day, sensory reactivity to stimuli of different types (e.g. auditory, visual and proprioceptive stimuli) was conducted. Auditory stimuli responses were measured by clicker sound from approximately 30 cm to the rats; visual stimuli response were measured with the help of shining pen light in the eye of rats and placing a blunt object near to the eye of rats. Response to

proprioceptive stimuli was measured by placing anterior/dorsal surface of animals paw to the table edge. The responses of reactions for these three exercises were normal in animals belonging to both the controls as well as drug treatment dose groups.

4 Mortality and Morbidity

All animals were observed daily once for mortality and morbidity at approximately 1.0, 3.0 and 4.0 hours post dose on day of dosing and twice daily (morning and afternoon) thereafter for 14 days.

EVALUATION OF ACUTE TOXICITY OF *VETTUMARAN KULIGAI*

Effect of Acute Toxicity (14 Days) of *VETLUMARAN KULIGAI*

Table: Shows Physical and behavioral examinations.

RESULT Table –1 Physical and behavioral examinations.

Group no.	Dose(mg/kg	Observation sign	No. of animal affected.
Group-I	5mg/kg	Normal	0 of 3
Group- II	50mg/kg	Normal	0 of 3
Group-III	300mg/kg	Normal	0 of 3
Group-IV	1000mg/kg	Normal	0 of 3
Group-V	2000mg/kg	Normal	0 of 3

Table-5 Home cage activity

Functional and Behavioural observation	Observation	5mg/kg Group (G-I)	50mg/kg (G-II)	300mg/kg (G-III)	1000mg/kg (G-IV)	2000mg/kg (G-V)
		Female n=3	Female n=3	Female n=3	Female n=3	Female n=3
Body position	Normal	3	3	3	3	3
Respiration	Normal	3	3	3	3	3
Clonic involuntary Movement	Normal	3	3	3	3	3
Tonic involuntary Movement	Normal	3	3	3	3	3
Palpebral closure	Normal	3	3	3	3	3
Approach response	Normal	3	3	3	3	3
Touch response	Normal	3	3	3	3	3
Pinna reflex	Normal	3	3	3	3	3
Pinna reflex	Normal	3	3	3	3	3
Tail pinch response	Normal	3	3	3	3	3

Table-6 Hand held observation

Functional and Behavioral observation	Observation	Control	5 mg/ kg (G-I)	50 mg/kg (G-II)	300mg /kg (G-III)	1000mg/kg (G-IV)	2000mg/kg (G-V)
		Female n=3	Female n=3	Female n=3	Female n=3	Female n=3	Female n=3
Reactivity	Normal	3	3	3	3	3	3
Handling	Normal	3	3	3	3	3	3
Palpebral closure	Normal	3	3	3	3	3	3
Lacrimation	Normal	3	3	3	3	3	3
Salivation	Normal	3	3	3	3	3	3
Piloerection	Normal	3	3	3	3	3	3
Pupillary reflex	Normal	3	3	3	3	3	3
Abdominal tone	Normal	3	3	3	3	3	3
Limb tone	Normal	3	3	3	3	3	3

Table-7 Mortality

Group no	Dose no(mg/kg)	Mortality
Group-I	**5(mg/kg)**	**0 of 3**
Group-II	**50(mg/kg)**	**0 of 3**
Group-III	**300(mg/kg)**	**0 of 3**
Group-IV	**1000(mg/kg)**	**0 of 3**
Group-V	**2000(mg/kg)**	**0 of 3**

Result:

From acute toxicity study it was observed that the administration of ***VETTUMARAN KULIGAI*** at a dose of 2000mg/kg, to a rats. From acute toxicity study it was observed that the administration of ***VETTUMARAN KULIGAI*** at a dose of 2000 mg/kg to the rats do not produce drug-related toxicity and mortality. So No-Observed-Adverse-Effect- Level (NOAEL) of ***VETTUMARAN KULIGAI*** is 2000 mg/kg.

5.0 DISCUSSION

VETTUMARAN KULIGAI was administered single time at the dose of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats and observed for consecutive 14 days after administration. Doses were selected based on the pilot study and literature review. All animals were observed daily once for any abnormal clinical signs. Weekly body weight and food consumption were recorded. No mortality was observed during the entire period of the study. Data obtained in this study indicated no significance physical and behavioural signs of any toxicity due to administration of ***VETTUMARAN KULIGAI*** at the doses of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats.

At the 14th day, all animals were observed for functional and behavioral examination. In functional and behavioral examination, home cage activity, hand held activity were observed. Home cage activities like Body position, Respiration, Clonic involuntary movement, Tonic involuntary movement, Palpebral closure, Approach response, Touch response, Pinna reflex, Sound responses, Tail pinch response were

observed. Handheld activities like Reactivity, Handling, Palpebral closure, Lacrimation, Salivation, Piloercetion, Papillary reflex, abdominaltone, Limb tone were observed. Functional and behavioral examination was normal in all treated groups.Food consumption of all treated animals was found normal as compared to normalgroup.

Body weight at weekly interval was measured to find out the effect of ***VETTUMARAN KULIGAI*** on the growth rate. Body weight change in drug treated animals was found normal.

6.0 SUMMARY & CONCLUSION:

Summary:

The present study was conducted to know single dose toxicity of ***VETTUMARAN KULIGAI*** on female wister rats. The study was conducted using 15 female Wister rats. The female animals were selected for study of 8- 12 weeks old with weight range of within ± 20 % of mean body weight at the time of randomisation. The groups were numbered as group I, II, III, IV and V and dose with 5mg/kg, 50mg/kg, 300mg/kg, 1000mg/kg and 2000mg/kg of ***VETTUMARAN KULIGAI***. The drug was administered by oral route single time and observed for 14 days. Daily the animals were observed for clinical signs and mortality. Body weight of all animals was recorded once in a week.

There were no physical and behavioral changes observed in albino mice of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats during 14 days.

Body weight of all animals did not reveal any significant change as compared to vehicle control group.

Food consumption of all group animals was normal.

Mortality was not observed in any treatment groups.

Conclusion:

The study shows that ***VETTUMARAN KULIGAI*** did not produce any toxic effect at dose of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats. So No-Observed-Adverse-Effect-Level (NOAEL) of ***VETTUMARAN KULIGAI*** is 2000 mg/kg.

7.0 ABBREVIATIONS

No.	Number
Mg	Milligram
Kg	Kilogram
LD_{50}	Lethal Dose $_{50}$
p.o	peros
ML	Milliliter
%	percentage
R&D	Research and Development
EDTA	Ethylene Diamine Tetra Acetic Acid
M	Male
g%	Gram percentage
g	Gram
NOAEL	No-Observed-Adverse-Effect-Level
MLD	Minimum Lethal Dose
MTD	Maximum Tolerated Dose
OECD	Organisation of Economic Co-operation and Development
CPCSEA	Committee for the Purpose of Control and Supervision of Experiments on Animals

8.0 REFERENCES

- Schedule –Y, Amendment version 2005, Drugs and Cosmetics Rules, 1945.
- OECD 2001- Guideline on Sub-Acute Oral Toxicity (AOT). Environmental health & Safety monograph series on testing and adjustment No. 407.

Evaluation of antipyretic activity of Vettumarankuligai in yeast induced pyrexia

.Introduction

The practice of herbal medicine dates back to the very earliest period of known human history. There is evidence of herbs have been used in the treatment of diseases and for revitalizing body system in almost all ancient civilization. Ayurveda and siddha the ancient healing systems have provided a rational basis for treatment of various ailments. Pain, inflammation and fever are very common complications in human beings.

Pyrexia or fever is caused as a secondary impact of infection, malignancy or other diseased states; wherein there is abrupt increase the core temperature above the normal level (Math *et al*., 2011). It is the body's natural defence to create an environment where infectious agent or damaged tissue cannot survive (Chattopadhyay*et al*.,2005).

Normally the infected or damaged tissue initiates the enhanced formation of pro-inflammatory mediator's (cytokines like interleukin 1a and TNF- a) which increase the synthesis of prostaglandin E2 (PGE2) near peptic hypothalamus area and thereby triggering the hypothalamus to elevate the body temperature (Spacer and Breder, 1994).The regulation of body temperature requires a delicate balance between the production and loss of heat.

As the temperature regulatory system is governed by a nervous feedback mechanism, so when body temperature becomes very high, it dilates the blood vessels and increase sweating to reduce the temperature; but when the body temperature becomes very low hypothalamus protect the internal temperature by vasoconstriction.

The hypothalamus regulates the set point at which body temperature is maintained. In fever this set point is elevated and a drug like paracetamol does not influence body temperature when it is elevated by factors such as exercise or an increase in ambient temperature (Ashokkumar*et al*., 2010).

Several plants and their products are claimed and proved to possess antipyretic property (Nanda *et al*., 2009). Although the body surface temperature is ordinarily measured in clinical practice, it is the body core temperature which is physiologically

important. The rectal temperature (which reflects the core temperature closely) is about 0.6ºC higher than oral temperature and about 1.4ºC higher than axillary temperature.

The generally accepted normal limits of rectal temperature in adults are 36.1ºC and 37.8ºC; the body temperature is higher in infants. If the core temperature rises by more than a few degrees in man, mental changes occur. It is well known that an individual with high fever is often confused and delirious. The working of many tissue enzymes is also adversely affected and hyperpyrexia may result in death. However, core temperature below 40.5ºC is generally tolerated by most individuals (Satoskar*et al*., 2010).

A natural antipyretic agent with reduced or non- toxicity is essential. Further, as health care costs continue to escalate, the attraction for low cost remedies has stimulated consumers to re-evaluate the potential of alternatives (Chattopadhyay and Arunachalam, 2005; Valarmathi*et al*.. 2010; Jaiswal*et al*., 2011). Therefore the present study was undertaken to investigate the antipyretic properties of theVettumarankuligai.

REQUIREMENTS:

Animal Wistar albino rats weighing about 180-200g

Drugs and chemicals : Injection of 20 % w/v of brewer's yeast (10ml/kg)

Vettumarankuligai.

Experimental animals

Wistar albino rats were weighed (180-200 g) were procured from K.M.College of Pharmacy,Madurai.. The animals were housed in the departmental animal house under standard conditions (26±2°C and relative humidity 30-35%) in 12 hours light and 12 hours dark cycle respectively for 1 week before and during the experiments. Animals were provided with standard rodent pellet diet and had free excess of water.

The composition of diet is 10% protein, 4% Arachisoil, 1% fibers, 1% calcium, 1000 IU/gm vitamin A and 500 IU/gm vitamin D. All the animals were acclimatized to the laboratory conditions prior to experimentation. All the experiments were conducted between 10.00 and 17.00hr and were in accordance with the ethical guidelines of the CPCSEA..

TREATMENT PROTOCOL:

Body weights of the animals were recorded and they were randomly divided into 5groups of 6 animals each as follows:

Group I: Animals served as control normalsaline 10 ml/kg)

Group II : Animals were treated with yeast via subcutaneous injection (10ml/kg).

Group III :Animals were administered with yeast (10 mL/kg) and the standard drug paracetamol150mg/kg b.w.), orally

Group IV :Animals were administered with yeast (10mL/kg,) andreceived 200mg/kg of Vaettumaarankuligaidissolved with 2ml sterile water and administered through orally.

Group-VAnimals were administered with yeast (10 mL/kg,) and received 400mg/kg of Vaettumaarankuligai dissolved with 2ml sterile water and administered through orally.

Antipyretic activity

Yeast induced pyrexia method

A suspension of Brewer's yeast (15%) in saline (0.9%) was prepared. Fivegroups, each containing 6 rats of either sex were taken. The thermocouple was inserted 2cm deep into the rectum and the rectal temperatures were recorded. Pyrexia was induced by subcutaneous injection of 20% w/v of brewer's yeast (10 ml/kg) in distilled water. The basal rectal temperature was measured before the injection of yeast, by inserting digital clinical thermometer to a depth of 2 cm into the rectum. The sight of injection was massaged in order to spread the suspension beneath the skin.

The room temperature was kept at 22-24℃, immediately after yeast administration, food was withdrawn and the rise in rectal temperature was recorded. The measurement was repeated after 30 minutes. The dose of the test compound and standard drug was given orally. The rectal temperature was recorded again after 1, 2 and 4 hours. Paracetamol (150mg/kg) was selected as a standard drug. The

Vettumarankuligai were dissolved in sterile water. The data were analyzed for significance using the one way anova followed by newmannkeuls multiple range tests.

Results

The antipyretic potential of Vettumarankuligai was evaluated by determining its effect on yeast-induced pyrexia in albino rats. Table.1 shows that animals treated with Vettumarankuligai possess significant antipyretic property when compared with group 2 and also provided the highest marked antipyretic activities. The result showed the Vettumarankuligai at a dose of 200 and 400 mg/kgcaused lowering of the body temperature induced by injection of Brewer□s yeast in the experimental animals significantly from 1 to 3 hrs following its administration.

The effect of Vettumarankuligai on yeast-induced pyrexia showed that the rectal temperature was markedly elevated to 39.19°C, 3 hr after the subcutaneous injection of yeast suspension,decreased to 38.67°C within 3hr of Vettumarankuligai treatment respectively, and reduced till 3hrs showing a sizeable decrease and was comparable to paracetamol at 150 mg/kg marked antipyretic activity detected which were significantly different than the controls ($p<0.01$). The antipyretic activity was equal to that of the standard drug paracetamol.

This result reveals that the Vettumarankuligai has marked antipyretic activity as compared with standard paracetamol**.**

Table.1The Effect of Vettumarankuligai on body temperature in yeast induced pyrexia.

Group	Recctal Temperature			
	0hr	**1hr**	**2hr**	**3hr**
Group I (Control)	38.32 ± 0.8	37.50 ± 0.75	37.70 ± 0.85	37.55 ± 0.48
Group II(10 ml/kg)	41.48 ± 0.23	42.18 ± 0.20	39.30 ± 0.17	39.17 ± 0.25
Group III(150 mg/kg)	41.32 ± 0.19	39.60 ± 0.22	38.50 ± 0.25*	37.58 ± 0.40 *
Group IV(200 m/kg)	41.55 ± 0.02	39.78 ±0.25	39.25 ± 0.20*	38.60 ± 0.38 *
Group V (400 m/kg)	41.30 ± 0.04	39.45 ±0.18	39.12 ± 0.20*	38.55 ± 0.40 *

Values are expressed as Mean ±SEM. n = 6 in each group,

*values are significant($P < 0.01$) different from pyrexia control (G2)

Discussion

The Vettumarankuligai showed significant antipyretic activity. The animals were also fevered by injection of Brewer's yeast suspension (10 mL/kg) subcutaneously in back below the nape of the neck for the antipyretic activity. The Vettumarankuligai showed significant decrease in elevated body temperature as compared to standard drug paracetamol.

The possible mechanism of antipyretic action may be due to the inhibition of prostaglandin as that of paracetamol by blocking the cyclo-oxygenase enzyme activity (Chandrasekharan and Simmons, 2004). There are several mediatorsfor pyrexia and the inhibition of any one of these can be responsible for the antipyretic effect (Rawlins andKarger, 1973). Inhibition of any of these mediators may bring about antipyresis.

Antipyretics have been shown to suppress fever by inhibiting prostaglandin synthetase, resulting in the blockade of the synthesis of prostaglandin in the brain or suppressing the rise of interleukin-1α production subsequent to interferon production. The oral administration of Vettumarankuligai were significantly attenuated rectal temperature of yeast induced pyrexia in rats and comparable to that of standard drug paracetamol.

So, inhibition of prostaglandin synthesis could be the possible mechanism of antipyretic action as that of paracetamol. Also, there are several mediators or multiprocesses underlining the pathogenesis of fever. Inhibition of any of these mediators may bring about antipyresis (Akil*et al.*,1998). Thus, it can be postulated that the Vettumaarankuligaicontains pharmacologically active principles that interfere with the release of prostaglandins.

This may be attributed to the presence of the various bioactive compound present in the Vettumaarankuligai which may be involved in inhibition of prostaglandin synthesis. Also, there are several mediators or multiprocessors underlining the pathogenesis of fever. Inhibition of any of these mediators may bring about antipyresis. Flavanoids like baicalinhave been shown to exert antipyretic effect by suppressing TNF-α (Adesokan*et al.*,2008) and its related compounds also exhibit inhibition of arachidonic acid peroxidation, which results in reduction of prostaglandin levels thus reducing the fever and pains (Germain*et al.*, 2011).

The present study also correlates with the study of Zakaria*etal.*,(2007) that the compounds like flavonoids and saponins are suggested to act synergistically to exert the observed pharmacological activity. Flavonoids are known to target prostaglandins which are responsible for pyrexia (Rajnarayanan*et al.*, 2006). The presence of flavonoids in the Vettumarankuligai may be contributory to its antipyretic activity.

This potentiality supports the earlier traditional claims as a pediatric antipyretic remedy.

Conclusion

Herbal medicines derived from the plant extracts are being increasingly utilized to treat a wide variety of clinical diseases, though relatively little knowledge about their mode of action is available. In conclusion, the present study provides evidences for the Vettumarankuligai shows significant antipyretic activity which could partly contribute to its ethnomedical use.

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ANTI-INFLAMMATORY ACTIVITYOF SIDDHA FORMULATION VETTU MARAN KULIGAI

The anti-inflammatory activities of **siddha formulation Vettumarankuligai** at a dose of 200 and 400mg/kg were evaluated using carrageenan-induced paw edema method. The inflammation was readily produced in the form of edema with the help of irritant such as carrageenan. Carrageenan is a sulphated polysaccharide obtained from sea weed (Rhodophyceae) and when injected cause the release of prostaglandins by the way it produces inflammation and edema.

REQUIREMENTS:

Animal : Albino rat (180-200 g)

Drugs and chemicals : Carrageenan (1%w/v), Diclofenac sodium (standard), Carboxy methyl cellulose (1%w/v),

Digital plethysmo meter. U G O Basile (Italy)

Test compounds : siddha formulationVaettumaarankuligai

METHOD:

Anti-inflammatory activity was performed by the following procedure of Bhandri et al(1)The animals were divided into 4 groups each having six animals. A freshly prepared suspension of carrageenan (1% w/v , 0.1 ml) was injected to the planter region of left hind paw of each rat. One group was kept as control and the animals of the other groups were pretreated with the siddha formulationVettumarankuligai**test** Compounds dissolved with 2 ml sterile water given through orally 30 min before the carrageenan treatment. The paw volumes of the test compounds, *standar*d and control groups were measured at 60,240,360 minutes of carrageenan treatment with the help of Digital plethysmometer (Ugo basile, Italy). Mean increase in paw volume was measured and the percentage of inhibition was calculated.

% Anti-inflammatory activity = (Vc-Vt / Vc) x 100

Where, ***Vt***-mean increase in paw volume in rats treated with test compounds,

Vc-mean increase in paw volume in control group of rats.

TABLE No.1

ANTI-INFLAMMATORY ACTIVITY OF SIDDHA FORMULATION VETTU MARAN KULIGAI

Treatment	**Dose (mg/kg)**	**Paw volume(ml) as measured by mercury displacement at 6 hour**	**Percentage inhibition of paw edema**
Group I Normal saline	10ml/kg orally	5.35±0.90	-
Group II Std	10mg/kg I.P.Diclofenac sodium	1.75±0.42	67.36%*a
Group III Vettumarankuligai	200mg/kg.Orally.	2.10±0.52	60.60%*a
Group IV Vettumarankuligai	400mg/kg.Orally.	1.95±0.40	63.63%*a

* Data are expressed as Mean ± S.E.M.

*Data were analyzed by one way ANOVA followed by Newman's keul's multiple range tests, to determine the significance of the difference between the control group and rats treated with the test compounds.

*a Values were significantly different from normal control at P< 0.01.

Results

Anti- inflammatory activity

Both doses ofsiddha formulationVettumarankuligai at 200mg/kg and 400mg/kg were tested for their Anti- inflammatory activity by using carrageenan Induced rat paw edema method and the results are tabulated in table no 1. The results reveals that both doses of siddha formulation vettumarankuligai at 200mg/kg and 400mg/kgdoses possesses significant Anti- inflammatory activity when compared to control group at p<0.01.

ANTIMICROBIAL STUDIES

AIM

To study the Anti-microbial action of **"Vettumaran Kuligai"** done by "paperdisc agar diffusion method" – Kirby – bauyer method.

MEDIUM

Muller Hinton agar

COMPONENTS OF MEDIUM

Beef extract	-	300gms/lit
Agar	-	17gms/lit
Starch	-	1.5gms/lit
Casein Hydroxylate	-	17.5gms/lit
Distilled water	-	1000ml
PH	-	7.6

PROCEDURE

The media was prepared from the components and poured and dried on a petri dish. The organism was streaked on the medium and the test drug (1gm drug in 10ml water) was placed on the medium. This is incubated at 37 for one over night and observed for night and observed for the susceptibility shown up clearance around the drug.

MALAR MICRO DIAGNOSTIC CENTRE

65,sri Ram Popular Road,Manakavalampillai Nagar,Palayamkottai.
Ph.lab,0462-2583954,Resi.2583955

Name : Dr.K.THIRUMAGAL

Anti Microbial Study

Method : Kirby Bauer

Name of the drug : Vettu Maran Kuligai

Name of the control : Amikacin

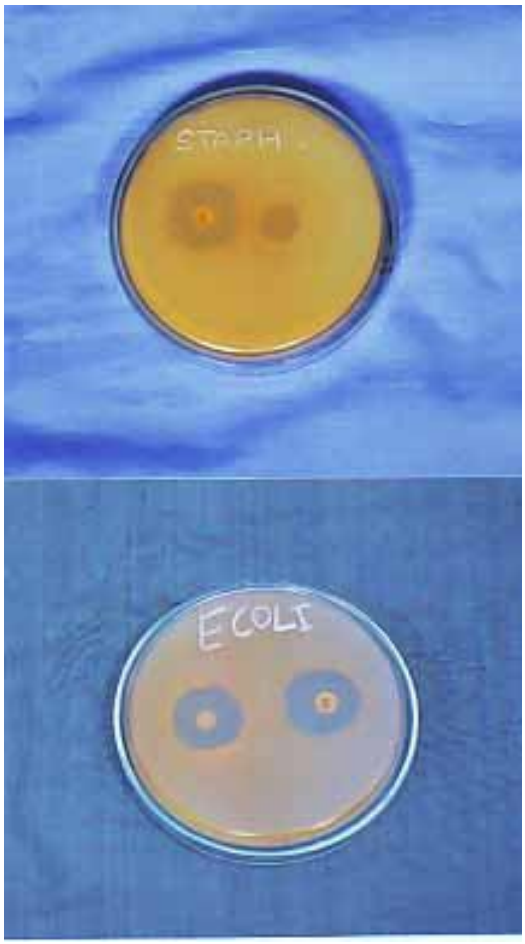
Report

S.No	Drug	Organism	Sensitivity	Zone size of Drug	Zone size of Control (Amikacin)
1.	Vettu Maran Kuligai	Escherichia coli	Sensitive	10mm	12mm
2.	Vettu Maran Kuligai	Staphylo coccus aureus	Moderate Resistant	8mm	15mm
3.	Vettu Maran Kuligai	Klebsiella pneumonia	Resistant	Resistant	15mm
4.	Vettu Maran Kuligai	Strepto coccus pneumonia	Resistant	Resistant	16mm

R.Napoleon,MD.,
Consultant Microbiologist

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample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& MAGALIR MARUTHUVAM
GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

Certified that Dr. THIRUMAGAL. K

PG SCHOLAR - FINAL YEAR

has successfully participated as a Trainee on the six days of continuing Medical Education training programme for Teaching faculties from 8th to 13th of February 2016 held at Govt. Siddha Medical College, Palayamkottai.

Prof. Dr. D.K.SOUNDARARAJAN MD (s)
Head of the Department
Kuzhanthai Maruthuvam

Prof. Dr. S.SOUNDARARAJAN MD (s)., BL
Principal

CONTINUING MEDICAL EDUCATION PROGRAMME

Organized by

POST GRADUATE DEPARTMENT OF KUZHANTHAI MARUTHUVAM (PAEDIATRICS)

GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

This is to Certify that Dr. THIRUMAGAL . K

THIRD YEAR - PG *has actively participated in the continuing Medical*

Education training programme held on **22nd June 2016**. *at Govt. Siddha Medical College, Palayamkottai*

This programme focused on a Seminar on ***"Metabolic Illness"***

Dr. K.SHYAMALA, M.D(s)
Co-ordinator

Prof.Dr. D.K.SOUNDARARAJAN, M.D(s)
Head of the Dept.

Prof.Dr. S.VICTORIA, M.D(s)
Principal

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

CONSENT FORM

An open clinical study to evaluate the safety and efficacy of Siddha sasthric formulation **" VettumaranKuligai"** for the management of **Suram.**

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all the details about the study in the terms readily understood by the parent

Date : Signature :

Place : Name :

CONSENT OF INFORMANT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow up including the laboratory investigations to be performed to monitor and safeguard my Son / Daughter body functions.

I am aware of my right to opt out to tail at any time during the course of the trial without having to give the reasons for doing so.

I am exercising my free power of choice, here by give my consent to be included as a subject in the clinical trial of **" VettumaranKuligai"** for the treatment of **Suram.**

Date	:	Informant Signature	:
Place	:	Patient Name	:
Signature of witness	:	Informant Name	:
		Relationship	:

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

PROFORMA OF CASE SHEET FOR SURAM

IP. No.	:	Religion	:
Bed No.	:	Parents occupation	:
Name	:	Income	:
Age	:	Date of admission	:
Sex	:	Date of discharge	:
Address	:	Diagnosis	:
Informant	:	Medical officer	:

1. Complaints and duration :
2. History of present illness :
3. History of past illness :
4. Antenatal history :
5. Birth history :
6. Neonatal history :
7. Developmental history :
8. Nutritional history :
9. Immunization history :
10. Family history :
11. Allergy and contact history :

12. Socio economic status :

GENERAL EXAMINATION

1. Level of consciousness :
2. Nutritional status :
3. Posture / Attitude :
4. Dysmorphic features :
5. Signs and respiratory distress :
6. Anemia :
7. Cyanosis :
8. Jaundice :
9. Clubbing :
10. Koilonychias :
11. Lymphadenopathy :

Anthropometry

1. Height :
2. Weight :
3. Head circumstances :
4. Mid arm circumstance :

Vital sign

1. Temperature :
2. Pulse rate :
3. Respiratory rate :
4. Heart rate :
5. Blood pressure :

SIDDHA ASPECTS

Nilam

1. Kurinnji :
2. Mullai :
3. Marutham :
4. Neithal :
5. Paalai :

Paruvakaalam

1. Kaar :
2. Koothir :
3. Munpani :
4. Pinpani :
5. Elavenil :
6. Muthuvenil :

Poripulangal

1. Mei :
2. Vaai :
3. Kan :
4. Mooku :
5. Sevi :

Kanmenthiriyam

1. Kai :
2. Kaal :
3. Vaai :
4. Eruvai :
5. Karuvai :

Uyirthathukkal

Vadham

1. Praaanan :
2. Abaanan :
3. Viyaanan :
4. Uthaanan :
5. Samaanan :
6. Naagan :
7. Koorman :
8. Kirukaran :
9. Devathathan :
10. Dhananjeyan :

Pitham

1. Analpitham :
2. Ranjagam :
3. Saadhagam :
4. Praasagam :
5. Aalossagam :

Kabam

1. Avalambagam :
2. Kilethagam :
3. Pothagam :
4. Tharpagam :
5. Santhigam :

UdalKattugal

1. Saaram :
2. Senneer :
3. Oonn :

4. Kozhuppu :
5. Enbu :
6. Moolai :
7. Sukkilam / Suronitham :

Envagaithervugal

1. Naadi :
2. Sparisam :
3. Naa :
4. Niram :
5. Mozhi :
6. Vizhi :
7. Malam :
8. Moothiram :

MODERN ASPECTS

Respiratory system

1. Inspection :
2. Palpation :
3. Percussion :
4. Auscultation :

Examination of other system

1. Cardiovascular system :
2. Gastrointestinal system :
3. Central nervous system :
4. Excretory system :
5. Musculoskeletal system

Laboratory investigation

Blood

1. TC :
2. DC :
3. ESR (1 hr) :
4. Hb % :

Urine

1. Albumin :
2. Sugar :
3. Deposits :

Stools

1. Ova :
2. Cyst :

Others

1. X ray chest :
2. Other investigation :
3. Summary of the case :
4. Differential diagnosis :
5. diagnosis :
6. Treatment :
7. Prognosis :
8. Prevention :

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL

PALAYAMKOTTAI

PG DEPARTMENT OF KUZHANTHAI MARUTHUVAM

ADMISSION DISCHARGE CASE SHEET

IP. No.	:	Religion	:
Bed No.	:	Parents occupation	:
Name	:	Income	:
Age	:	Date of admission	:
Sex	:	Date of discharge	:
Address	:	Diagnosis	:
Informant	:	Medical officer	:

S.No.	Clinical features (Signs and symptoms)	During admission	During discharge
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

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